The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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ENGINE AND MATERIALS FOR SALE AT THE GERNICK MINE, near Praze, in the parish of Crowan.

TO BE SOLD, BY PUBLIC AUCTION, on Wednesday, the 10th day of November next, at Eleven in the forenoon, all the MACHINERY and MATERIALS belonging to the Gernick Mine, as they now stand, in one lot—the pit-work in the shafts is fixed, as in her working condition, and must be drawn to surface at the sole expense of the purchaser:—a 22-inch cylinder steam-engine, with new boiler (6½ tons), capstan, and two shears with sheaves, horse whim, shaft tackle and sheaves, horse whim chain, whim rope, whim and wind kibbles, two balance bobs, 50 fms. of 7- and 5½ fms. of 6-inch capstan rope, two new whim sheaves,

36 fms.	9 ft.	6 in.	pumps	25 fms.	1½ in. horizontal rods
9	9	7	do.	40	iron pump rods
2	4	7	do.	15	7-inch rods
2	6	4	do.	20	5 do.
1	7	6	do.	20	4 do.
1	7	7	do.	3 door pieces	
3	5 inch working barrels			1 6-inch plunger pole, with stuffing box and gland	
1	6		do.		

rods, plates, and bolts, 40 fms. 6-inch launders, ladders, and 2 air machines, 40 fms. air-pipes, 5 windbores, brass buckets, new and old iron, grinding-stone and trough, smiths' bellows (36 inch), vice, anvil, screw, stock, smiths and miners' tools, miners' chests, barrows, carpenter's bench, shovels, iron weights, old timber, account-house furniture, and sundry other useful articles.

For viewing the same, apply to the agent, on the mine; and, for further particulars, to Mr. W. Surgess, Trengore, or to Mr. W. Tippett, auctioneer, Camborne.

PITT'S TANFIELD MOOR COLLIERY, and PROPERTY, at WINLATON, in the county of Durham.

TO BE PEREMPTORILY SOLD (pursuant to a decree of the high Court of Chancery, made in a cause of "Davis v. Pitt," with the approbation of Sir Giffin Wilson, Knight, one of the Masters of the said Court,) at the Public Sale room, Southampton-buildings, Chancery-lane, London, on Wednesday, the 10th day of November next, between the hours of One and Two in the afternoon, all that well-known current-going sea-sale COLLIERY, called

PITT'S OLD TANFIELD MOOR,

together with all the establishment, of dead and fixed stock, of machinery, workshops, granaries, stables, storehouse, agents' and workmen's houses, &c., complete, for carrying on the same, late the property of Wm. Morton Pitt, Esq., of Kingston House, in the county of Dorset, deceased.—The colliery is situated in the chapelry of Tanfield, in the county of Durham, and contains upwards of 1,000 acres of coal ground, in which several valuable seams of coal have been found by boring below the present working seams, and which may be "won" and worked at an easy expense. The coals are shipped by the Brandling Junction Railway Company by their drops at South Shields, on the river Tyne; they are of excellent quality, and bear a high price in the London market, they are also fit for the foreign export trade. The machinery and working pits are in a good state of repair, and the purchaser may enter immediately on completing the purchase and carry on the colliery, without being called upon to make any further advance of capital beyond the amount of the purchase-money.—Also, a portion of the LORDSHIP of WINLATON, in the said county of Durham, which has produced an average yearly income, for ten years ending May-day, 1841, of about £54.

Printed particulars and conditions of sale may be had (gratis) at the said Master's chambers, in Southampton-buildings; Messrs. Oliverson, Denby, and Lavie, Frederick's-place, Old Jewry, London; Messrs. Coombs and Son, solicitors, Dorchester; Messrs. Farrer and Co., Lincoln's-Inn-fields; Messrs. Rickards and Walker, Lincoln's-Inn-fields; Mr. Buddle, colliery viewer, Newcastle-upon-Tyne; and of Mr. Benjamin Arkless, Tanfield Moor fitting-office, Newcastle, who will show the property.

OLIVERSON, DENBY, and LAVIE, Plaintiffs' solicitors.

TO BE PEREMPTORILY SOLD, BY PUBLIC TENDER, for the unexpired term of four years, commencing from the 21st of January next, pursuant to a decree of the high Court of Chancery, made in certain causes, "Shale and others against Di. Hodson and others," and "Shale and others against Caroline Hodson and others," and "Shale and others against Thompson and others," and "Shale and another against Mary Hartshorn and another," with the approbation of James William Farrer, Esq., one of the Masters of the said Court,—all the THICK COAL, commonly called the TEN-YARD COAL, lying and being under all those several closes, pieces, or parcels, of freehold land, called the Wildfield Jones, situate and lying at Highfields, in the parish of Sedgley, in the county of Stafford, containing six acres or thereabouts, and adjoining to collieries, now in work, belonging to the estate of the late Earl of Dudley, deceased. These mines will be sold subject to an agreement made by Jonathan Hartshorn, the testator mentioned in the pleadings in the above causes, with certain parties, for getting, raising, and delivering the said coals into boats on the canal, at and for a certain sum per every ton.—Also, all the ungotten part of the THICK COAL, the GUBBIN HEATHEN, and all the other measures of COAL and IRONSTONE below the Heathen coal, remaining unsold, under all those closes, pieces, or parcels of copyhold land, situate at Bilston, within the manor of Stowheath, in the county of Stafford, and called the Batch Croftes, and containing together ten acres or thereabouts.

The whole of the above mines will be sold for the residue of the said term, reserving royalties, tenders for which, in writing, and sealed up, are, on or before the 8th day of November, 1841, to be addressed to Mr. Richard Thompson and Mr. Thomas Beebee, the surviving trustees of the estate of the said testator, or to Mr. John Mason, the solicitor to the said trustees, all of Bilston, in the county of Stafford; and particulars and terms of sale may be had (gratis) at the said Master's chambers, in Southampton-buildings, Chancery-lane, London; of the said Richard Thompson, Thomas Beebee, and John Mason; of Messrs. Clarke and Medcalf, solicitors, Lincoln's Inn-fields, London; of Mr. Henry Eaton, solicitor, Lancaster-place, Waterloo-bridge, London; of Messrs. White and Eyre, solicitors, Bedford-row, London; of Mr. Chaplin, solicitor, Gray's Inn-square, London; and of Mr. Gough, solicitor, East-street, Red Lion square, London.

TO COAL PROPRIETORS, ENGINEERS, AND OTHERS.

TO BE SOLD, BY PRIVATE CONTRACT, FOUR excellent double-acting condensing STEAM-ENGINES, of 20, 14, 6, and 4-horse power respectively; the whole are in excellent condition, and have been recently at work.

For further particulars, or to treat for the purchase, application may be made to Mr. Woodhouse, colliery viewer, Overseal, near Ashby de la Zouch.—Oct. 12.

FOREST OF DEAN.—PARK END COLLIERIES and IRON-WORKS, and NEW FANCY COLLIERY, the property of Edward Protheroe, Esq.,

TO BE SOLD, BY PRIVATE CONTRACT, the PARK END COAL-WORKS, which have been long known as the most important and productive in the Forest of Dean, and, in consequence of the advanced age of the proprietor, are now offered for sale, the legal title having just been made clear under the provisions of a late Act of Parliament, and an increased quantity of coal awarded to the property. These works are situated close to the Severn and Wye Railway, which affords a direct conveyance to both those rivers, and the various canals and railways connected with them, and more particularly to the manufacturing district of Gloucestershire, and the great markets of Gloucester, Cheltenham, Oxford, Bristol, Bridgewater, and Cork. The inspection of any geological or mining map of England, will at once show that the central position of the coal field of the Forest of Dean naturally commands the supply of a very large portion of the western counties of England. The acknowledged superiority of the coal in yearly increasing the demand, and the present large sale must be greatly extended when the important railways now in progress, and the local improvements contemplated, shall be completed. The award of the commissioners under the Dean Forest Mining Act divides these coal works into three portions.

1.—THE PARK END COLLIERY, comprising the Park End Main, Park End Royal, Ivy Moorhead, Birches Well, and Brockhall Ditches Pits (worked by seven steam engines) in six veins of coal, of which nearly 3,000,000 tons are calculated to be now unwrought. Even in the last year, about 3,000 tons were sold from this colliery, which has an advantageous contract for supplying the Park End Iron furnaces with coal.—The purchaser of the Park End Colliery will have the great advantage of commencing business immediately without any outlay, and with houses for agent, manager, and workmen, powerful Steam engines, in the best order, pit and railway waggons and horses, and the whole plant, stock, and accommodations of the mining and trading concerns, together with formal connections in an established business.

2.—THE INDEPENDENT LEVEL, a small detached colliery, in three veins, now in work, and capable of yielding about 12,000 tons a year.

3.—THE NEW FANCY COLLIERY, with three pits, now in progress of opening, new engine, and various useful buildings. This important work is situated in the very best part of the coal field, and has the peculiar advantage of being easily made to communicate with either of the present railways, or a central line. It contains about ten acres of undisturbed coal, in six veins, and will be confessedly the largest and finest colliery in the forest.

The whole of the above collieries are freehold, and pay a royalty of 2d. per ton on the coal as worked, or very low dead rents; any spirited individual or company taking the whole, would obtain an almost sufficient trade and power of supply, but either of the works would be sold separately. Liberal accommodation in payment by instalments, if desired, will be allowed.

THE PARK END IRON FURNACES and WORKS, with very extensive and valuable IRON MINES, are also offered for sale. They are let to the Forest of Dean Iron Company for a term, of which twenty-six years will be unexpired on the 25th of March next, at the rent of £[illegible] per annum, but an annuity of £[illegible] have been expended in forming these works, and almost unexampled success has attended the making of iron both in quantity and quality, the revenue-by value of the property must be very great.

To treat for the whole or any part of these properties, apply to Mr. Thomas Mitchinson, Ledney, agent to the proprietor; or to Messrs. James and Son, solicitors, Dymock; or Messrs. Tilsen and Co., solicitors, Cheapside-street, London. If desired, a personal conference may be had with the proprietor, at Hill House, Newnham.

SADDLEWORTH.—VALUABLE COAL MINES.

TO BE SOLD, BY AUCTION, by Mr. MATTHEW DRIVER, on Wednesday, the 17th of November instant, precisely at Five o'clock in the afternoon, at the House of Mr. Joseph Bradbury, the Black Swan Inn, Mumps, near Oldham, subject to such conditions as will be then produced, all the very VALUABLE MINES of COAL, CANNEL, &c., belonging to Messrs. Lees and Hallas, lying and being under certain estates containing about seventy statute acres, situate at High Moor and Scout Head, Saddleworth, in the county of York, and known by the name of the SMITH HILL COLLIERY, together with the steam-engine, shafting, geering, waggons, rails, and all other implements and things necessary for successfully working the said mines.

The estates under which these mines lie are situate about two miles from Oldham, on the old turnpike-road from thence to Delph—from which latter place and Upper Mill they are only about the same distance. There are four mines already proved to be under these estates, and it is supposed there are others—part of them are now working by Messrs. Lees and Hallas. The coals are of a very excellent quality, and in great request, and, being in a very populous district, there is a great and never failing demand for them. The old turnpike road from Oldham to Delph runs through the centre of the estates, and there are other good roads connected therewith, which afford a great facility for getting and carting away the coals.

Further particulars may be had on application to Mr. Driver, Knowsley, Saddleworth; Mr. Edward Wrigley, land and mine surveyor, 13, Cooper-street; or Mr. R. H. Wilson, solicitor, 37, Mosley-street, Manchester, at any of whose offices, plans of the estates and the workings of the mines may be seen.

STEAM-ENGINE FOR SALE.

TO BE SOLD, BY PRIVATE CONTRACT, at the NORTH WHEAL ALFRED MINES, near Hayle, Cornwall, a 60-inch cylinder STEAM PUMPING ENGINE, with three boilers complete. This engine has been at work about three years, and is considered one of the most beautiful and efficient pieces of machinery ever manufactured by Messrs. Sandys, Carne, and Vivian, on whose land it is now erected. The stroke in cylinder is 9 feet, and in shaft 8 feet; the well-work is of brass.—Applications to be made to the purser, Mr. William Vawdrey, at the above mine; and any further particulars may be known by applying to the engineer, Mr. Samuel Grose, Gwinear, Cornwall.

TO BE SOLD, BY PRIVATE BARGAIN, the extensive and valuable LAND and MINERAL ESTATE of WOODHALL, in Lanarkshire. This estate contains 1981 a. 1 r. 23 f. Scots measure, of which 1678 a. 88 pts. are arable land, 228 a. 79 pts. are in wood, the greater part of which is full grown, and fit for sale, and 38 a. 79 pts. are in pasture and planting—all as delineated on plans thereof, which will be exhibited to inquirers. The lands are partly let to industrious tenants, at moderate rents, which are well paid, and part in the hands of the proprietor, in a high state of cultivation.

The estate abounds in minerals, and being in the vicinity of extensive and still increasing ironworks, and having the Wishaw and Coltness Railway through the western portion of it, and the Monkland Canal passing into the lands on the north, with private railways connecting the more distant coal workings with the canal and public railways, every facility is afforded for conveying the minerals (which are let, and working extensively) to the ironworks and to the City of Glasgow, where an unlimited demand for coal is readily found. There is a large mansion-house, with garden and offices, on the estate, which lies about thirty miles from Edinburgh, and twelve from Glasgow; and with both cities there is ready and daily communication by mail and stage-coaches. The direct mail road between Edinburgh and Glasgow passes through the estate, within a convenient distance of the house, and a post office is established in the village of Holytown, which is on the estate.

This property, abounding so much in coal and ironstone, fire-clay, and freestone, is well worthy the attention of capitalists engaged in ironworks, the steam-boat trade of the river Clyde, and the general coal trade of Glasgow, seeing that besides the portions of the minerals already granted in lease, there are others remaining sufficient to warrant extensive mining operations both in coal and ironstone.

Plans of the estate will be seen on applying to Mr. Webster, the factor, Holytown, by Glasgow; or Mr. Robson, mining engineer, St. Vincent-street, Glasgow; or to Messrs. Bald and Geddes, mining engineers, Albany-street, Edinburgh; and James M'Innes, S.S.C., George-square, Edinburgh, will give information as to the conditions of sale and other particulars.

FOR SALE, at Wheal Prudence and Great St. George Mines, a 31-inch cylinder ENGINE, with boiler complete; two stroge cisterns lined with lead, contents of each 250 gallons; three wire grates for a crushing machine, stamps, cams, counting-house, and about three acres of land—Duchy copyhold.

Perranzabuloe, Oct. 29. THOMAS HUMPHRIES.

ALTEN MINING ASSOCIATION.—In pursuance of the power vested in the directors of this association, they do hereby make a CALL on the shareholders of ONE POUND per share, and request the same to be paid to the bankers of the association, Messrs. Williams, Deacon, and Co., on or before the 20th day of November next. The bankers' receipt, together with the certificate of shares, should be left at the office of the association, 34, Broad-street-buildings, two clear days, that the payment of the instalments may be inscribed thereon.

Dated in London, the 19th day of October, 1841. EDWD. J. COLE, Clerk.

IMPERIAL BRAZILIAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of the proprietors of this association will be held at the London Tavern, Bishopsgate-street, on Tuesday, the 16th day of November next, in pursuance of the by-law passed at the Special General Meeting of the 6th of February, 1838. The chair will be taken at Two o'clock precisely. GEORGE THOMAS, Secretary.

Winchester House, London, Oct. 25.

SOUTH CARADON MINE.—At the General Two-monthly Meeting of the shareholders in this mine, held at the mine, on Tuesday, the 26th instant, pursuant to notice, a DIVIDEND of TEN POUNDS per 128th share was declared, and is now payable, either at the mine or at the East Cornwall Bank, Liskeard. THOMAS KITTOW, Purser.

Dated South Caradon Mine in the parish of St. Cleer, near Liskeard, Cornwall, Oct. 27.

TALACRE COAL AND IRON COMPANY.—The EXTRAORDINARY GENERAL MEETING of proprietors of this company will be held, pursuant to adjournment, at the company's offices, 20, John-street, Adelphi, on Wednesday, the 3d of November, 1841, at One o'clock precisely.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to its usefulness with which the Manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c., &c.:—

"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

PARISIAN BITUMEN COMPANY, Millwall, Poplar.—The directors of the above-named company beg to call the attention of engineers, architects, surveyors, builders, and the public generally, to the applicability of the BITUMEN manufactured by them, as a pavement or flooring; also for its use in gas works for the prevention of damp and preservation of the masonry. They beg also to state that it has been used very successfully as a cement for masonry on the weirs of the Upper Medway, and is particularly applicable to hydraulic works and foundations of heavy buildings. They beg to submit the following list of prices, and to state that they will guarantee the durability and efficiency of any work executed by them:—

	s.	d.
Covering viaducts or arches of bridges, vaults, terraces, &c., ½ inch thick, per square yard	4	6
Paving railways, kitchens, cellars, granaries, malt houses, warehouses, &c., ½ inch thick	4	6
Paving barns, court yards, tan rooms, wharfs, stables, &c., ¾ inches thick	5	6
Paving walks, &c., ½ inch thick	3	6

The above charges are exclusive of the cost of carriage, which must be borne by the parties by whom the work is required. W. MACKENZIE, Superintendent.

THE THAMES TUNNEL is Open every day (except Sunday) from Nine to the morning until dusk, and is brilliantly lighted with gas. The entrance is on the Surrey side of the river, close to Rotherhithe Church. The First Passengers' Shaft at Wapping, and the remaining portion of the Tunnel, in order to form a junction with the east shaft, are now in active progress towards completion. Admission, One Shilling each. By order,

Company's Office, Wallbrook-buildings, Walbrook, October, 1841. J. CHARLES, Clerk to the Company.

N.B.—Conveyances to Rotherhithe, by omnibus, from Piccadilly, Charing Cross, Fleet-street, and Gracechurch-street; and, by steam boats, from Chelsea, Vauxhall, Lambeth, Hungerford, the Old Swan Pier, and London Bridge, to the Tunnel Pier at Wapping. Scotch, with plates descriptive of the works, are sold at the Tunnel, price One Shilling.

ANDREW SMITH'S PATENT WIRE ROPES, for standing rigging, lightning conductors, stropping of blocks, mining, railway, and general purposes; about half the size and weight of hempen ropes, and 25 per cent. cheaper. Testimonials to that effect, with specimens, may be seen, and every information obtained, at the office, 37, New Broad-street, city; manufactory, Mill-wall, Poplar; and also of the following agents:—

Robertson and Co., 12, Goree Piazzas	Liverpool.
Matthias Dunn	Newcastle-on-Tyne.
Joseph Bothway	Plymouth.
John Thompson and Co.	Wigan.
J. T. Tregellas	Truro.
Thomas Mooney and Son	Dublin.
Perrin and Nolan	Wicklow.
Coates and Young	Belfast.
James Kibble and Co.	Glasgow.
James Gunn	Leith.
J. M. Beatts, Clements's-lane, High-street	Dundee.

ANDREW SMITH'S PATENT WIRE ROPE.

This rope has been in use for standing rigging in her Majesty's Navy, and in a great number of merchant vessels, for upwards of six years, and is giving the highest satisfaction; the rope is also employed in various mines and railways in different parts of the kingdom.

COAL-FIELDS OF GREAT BRITAIN.

COAL FORMATION OF THE WEST OF SCOTLAND.

The carboniferous formation (1) of the Scottish Lowlands extends from coast to coast, forming from north-west to south-west a belt about forty miles in breadth, and eighty in length. Through its whole extent it is much dislocated by faults; 2) and the protrusion of trap rocks, nor can any of its characteristic beds be traced everywhere through the coal area. The deposits of which it is composed occur in troughs or basins (3), generally separated from each other by a curvature in the external or internal features of the country, or by the occurrence of trap ranges. These troughs, basins, or hollows, contain in general a number of coal beds thick enough to be worked, interstratified with layers of sandstone, clay, clay shale, and ironstone. Some of these basins or troughs contain only the older strata (4) of the coal formation, but the larger basins generally contain both the newer and the older. The coal beds vary from the thickness of a few inches to nine feet or more, and the sandstones and shales are often thirty or forty feet thick. The sandstones contain stems and trunks of trees of unknown genera, and sometimes, though very rarely, shells. The shales abound with the shells of both marine and fresh water genera of extinct species, and also with the scales, bones, teeth, vertebræ, and fins of fishes, all of extinct genera. These also occur abundantly in the ironstones.

The traps or whinstones occur in overlying masses, or in dykes (5), which penetrate the strata generally in a slightly inclined or vertical position in the form of a wall. These masses and dykes are of igneous origin, and have flowed from beneath towards the surface in a liquid condition. They have the effect of altering the strata to a certain extent on either side, sandstone being much indurated, and coal deprived of its bitumen, and reduced in many instances to a cinder. These traps or whinstones never contain any remains of plants or animals. The faults of the coal fields are upheaves or downthrows, by which the distance of a bed or series of beds from the surface is altered according to the extent of the dislocation. The carboniferous formation of the Scottish Lowlands may be divided into

1. Upper red sandstone series.
2. The upper coal series in which the organic remains indicate a fresh water or estuary origin.
3. The upper marine limestone series.
4. The lower coal series.
5. The lower marine limestone series.
6. The lower sandstone series.
7. The Bulagan and Levenside limestone.
8. The old red sandstone.

UPPER RED SANDSTONE.

The upper red sandstones may either be regarded as belonging to the age of the new red sandstone of England and the continent, or simply as a portion of the coal formation. The last view is certainly the more correct one, as it contains both beds of coal and coal plants. These, it is true, are rare, but this is always the case in rocks where the red oxide of iron is present in considerable abundance, as is the case in this formation. Generally speaking, its upper portion may be described as an aggregate of red and reddish coloured sandstones, occasionally variegated with shades of green, purple, and yellow. These sandstones are either massive or laminated micaceous (6). They alternate with red and variegated shales and marls. In a bore made near Hamilton, where the red sandstone formation probably attains its greatest thickness, there were found about forty fathoms of rocks preserving the red colour. Below this there were found thick beds of white sandstone alternating with a few thin seams of coal, clay shale, and micaceous laminated sandstones. In this formation, conglomerates (7) are rare, the only instances we witness being two, one in the bed of the Calder, near Broom-house toll, and another of a brecciated character at Hamilton; but the red sandstone beds frequently contain nodular masses of a concretionary character (8), which from their containing a considerable portion of the carbonate of lime, are more indurated; when they have become subject to the action of water they stand out in relief. The red sandstones overlie the coal in Ayrshire over a great area; those in Lanarkshire and as far as our opportunities of observation go, possess nearly the same lithological character. The position of the red sandstone to the upper workable coals is much nearer than in Lanarkshire, except in or two instances, where the red colour prevails below the 1st, and even the 2d, workable coal. Where this is the case, the coal is destroyed as if it had been acted upon by heat. The case we allude to is a pit at Rosehall, in the parish of Old Monkland, in the shanking of which the sandstones were observed of a reddish colour, so far down as the third workable seam of coal, being about eighty fathoms lower in the vertical section of the coal field than it is usually observed. It has always been to us a matter of astonishment, why the strata of one period should be characterized by such an abundance of the peroxide of iron, while in the older or newer strata, that mineral was either diffused in layers or nodules of ironstone of a grey colour. It is worthy of remark also, than a thin stratum of clay ironstone which usually lies above the splint or 5th coal of the upper series, and always found of a light fawn or grey colour, was in this pit almost quite red.

One important fact to be derived from the phenomena stated, is that though red rocks are seen to prevail in certain localities, it is not to be concluded, because at certain places, fifty fathoms of white sandstone, grey fakes, and blue shales, intervene between it and the workable coal seams, that such is always the case. Another geological conclusion to which it leads is this, that the red sandstones overlying our coal beds have no claim to be ranked as belonging to any other period than that of the true coal era.

Neither are the upper red sandstone formations of the counties of Lanark or Ayr known to possess any mineral, except the sands case. If the slightest value for economical purposes. Red ferruginous layers are met with, but not in such quantities as to offer any inducement to the miner. The coals are also of an inferior character, "scarce half made up," and never exceed from a foot to twenty inches in thickness. The upper red sandstone of Lanarkshire occupies an area measuring in its greatest extent from east to west about six miles, and from north to south from three to five miles. It is traversed by the faults common to the coal-measures, in both Lanarkshire and Ayrshire; but it is in the latter only where whinstone dykes occur in the upper red sandstone, as well as in the regular coal-measures.

That the coal formation in Arran is either represented by an enclosure, deposition of sandstones, and conglomerates, or immediately succeeded by such deposits, must be evident to all who have examined the structure of that island. These, like the red sandstones of Ayrshire, are traversed by whinstone dykes. Nowhere in Lanarkshire, where the upper coal series is fully developed, have we ever been able to find whinstone which could be recognised as newer date than the 4th or 5th workable coal seam—a circumstance which has often induced us to think that the greatestones of the coal fields are of nearly contemporaneous origin with these coals. It might, perhaps, be venturing too far, to consider the greenstone dykes affecting the lower portion of our coal-fields in Lanarkshire, and those which pass through the red sandstones in Ayrshire, as contemporaneous; if this were the case, the red sandstones of Ayr are of older date than those of Lanarkshire. But this supposition cannot be considered as improbable, seeing that even the limestone containing the productile hemisphericus, one of the lowest beds of the car-

boniferous series, is almost immediately succeeded by red sandstones on the opposite coasts of Arran."

☞ (1) The carboniferous formation, comprehending all the various seams of coal. (2) Breakages in the regular seam, formed by the protrusion of rocks, by the elevation or depression of the rocks beneath, and other causes. (3) Troughs or basins, as their name imports, are extensive hollows in which the coal seams are generally found; the hollows above the coal being filled up by the superimposed matter, are little perceivable in the general surface of the country. (4) Strata, is a geological term for layers or beds of rock, &c., of which the crust of the earth is composed. (5) Rocks which have been thrown up from below and breaks through the coal seams are called dykes. (6) Formed of thin layers or plates, and containing mica. (7) Conglomerates are fragments of different rocks united together by some substance as clay or limestone, originally soft, and afterwards hardened. (8) Round pieces of substances which have hardened together.

[To be continued].

SPECIFICATIONS OF RECENT PATENTS.

[From the *Inventors' Advocate.*]

Frank Hills and George Hills, manufacturing chemists, both of Deptford, Kent, for certain improvements in the manufacture of sulphuric acid and carbonate of soda, Oct. 15.—The first improvement consists in a furnace or oven for roasting or calcining pyrites, mundic, or sulphuret of iron, in order to drive off or extract the sulphur contained therein.

The front of the furnace is occupied by a transverse flue, which communicates with the ignited fuel of a coke oven or other large fire; from this flue, a range of flues, three in number, branches, and after making one or more turns, terminates in a flue leading to the chimney, which is at the back of the furnace. The spaces between each turn of the flues are divided by walls into ranges of chambers, in which the pyrites are burned; and these chambers are furnished with sliding doors at one end to regulate the admission of the atmosphere to the burning pyrites, in the proportions required to form sulphurous acid gas, by combining with the sulphur driven off from the pyrites. The other ends of the chambers communicate with a flue, from the upper part of which another flue leads to the condensing chamber, an iron box or pot, containing the requisite supply of nitre to convert the sulphurous acid gas into sulphuric acid being placed in this flue.

The second improvement consists in a process for making sulphuric acid from the residuum of pyrites which has already been burnt in the ordinary way of manufacturing sulphuric acid.

The residuum is ground to a powder by a pair of "edge-runners," and afterwards burnt in thin strata in any suitable furnace; but the patentees prefer their improved furnace just described. The ground residuum is strewed on the bottoms of the chambers of this furnace to a depth of about two inches, and remains in the furnace six hours, being repeatedly stirred. The whole of the sulphur contained in the pyrites is thus driven off and converted into sulphuric acid gas, which being combined with nitrous acid gas in the usual way in its passage to the condenser, is converted into sulphuric acid.

The third improvement consists in a method or process for making sulphuric acid from the liquid hydro-sulphuret of lime.

The hydro-sulphuret of lime is put into close iron vessels or boilers, and the sulphuretted hydrogen is driven off by evaporation, which, after passing through a worm or other refrigerating apparatus, to condense the steam that rises with it, is conveyed by a platina pipe to a small furnace kept red-hot, and is there inflamed and burnt. The products of the combustion (sulphurous acid gas and the vapour of water) are then conducted into a leaden condensing chamber, and converted by nitrous acid gas into sulphuric acid.

The fourth improvement consists in making carbonate of soda, by decomposing sulphate of soda by barytes.

A quantity of precipitated carbonate of barytes is mixed with about one-third of its weight of tar or other carbonaceous matter, and made into lumps the size of a common brick, which are burnt in a kiln similar to a lime kiln. The greater portion is thus converted into caustic barytes, which is dissolved in water, and added to sulphate of soda in solution, in the proportion of seventy-eight parts of dry barytes to seventy-two parts of dry sulphate of soda, when a decomposition will ensue, forming caustic soda and sulphate of barytes. The soda is then converted into carbonate in the usual way.

AMERICAN PATENTS.

[From the *Journal of the Franklin Institute.*]

Lewis Kaupp, New York, for a galvanic paint for protecting iron from decay by rust, July 1.—This patent was taken for "a process in the manufacture of materials for galvanising iron, or protecting iron from decay by rust or decomposition." The specification is one of much length, and a general outline of the process would occupy more space than we can allow to it; we, therefore, simply give the claims, which are as follow—viz., "what I claim as new, and of my own discovery and invention, is first forming of a galvanic paint for coating utensils of iron by pouring a mixture of lead and zinc, or lead, zinc, and tin, on a quantity of copper and sal ammonia, placed in the bottom of a vessel, so as to form an oxide of said metals, and afterwards combining with the oxide so formed, a further quantity of copperas and sal ammonia, as described. Second, I claim as new, and of my own discovery and invention, the combination of a portion of lime with the galvanic powder so produced, when such combination is used, for the purpose of economising the galvanic powder, and making the paint so mixed, harder, and more adhesive. Third, I claim as of my own invention and discovery, the mode herein set forth, of forming an alloy of zinc and lead, or of zinc, lead, and tin, by pouring a mixture of said metals, in a melted state, on a quantity of copperas and sal ammonia, which unites with the grosser parts, and allows the purer parts to escape through the bottom of the vessel, as described."

Simon Potter, Schenectady, Schenectady county, New York, for a machine for drilling or boring rocks, July 3.—The drill stock slides in bearings in a frame, which frame slides up and down, in an inclined frame, the respective parts being made adjustable in such manner as to give to the drill any desired inclination. The first frame slides in grooves in the inclined frame, and its height is regulated by cords attached to it, and passing over a roller at the top of the inclined frame. The inclination of the inclined frame is regulated by passing the screw bolts, by which it is secured, through long slots in the upper and lower side-pieces of the main frame—the upper bolts also pass through slots in the side-pieces of the inclined frame, to allow for the increased distance between the upper and lower bolts, when the inclination of the frame is increased. There is a circular plate on the drill stock, the under side of which is provided with cogs, or cams, which are tangential to a circle about half the diameter of the plate, so that when the tappets, by which the drill is worked up and down, act against these cogs, or cams, in lifting up the drill, it insures the turning of the drill. The claim is confined to the combined adjustable and sliding frames, with the drill, and to the method of raising and turning the drill, by means of the cogs, or cams, on the plate, and the tappets.

Francis B. Longmire, and H. Jones Brooke, Philadelphia, Pennsylvania, for preventing the escape of sparks from locomotive steam-engines, July 10.—The patentees say, "In the apparatus which we have invented for preventing annoyance from sparks, we make use, as is usual, of the escape steam, for the purpose of creating a draught through the fire; but instead of extending the waste steam pipes upwards, into a vertical flue, in the ordinary way, we carry said pipes downwards, so as to pass within a flue under the boiler; said flue may extend along, into, or below, the ash-pit, under the fire-box, so as to cause the sparks with the waste steam, and the gaseous products of combustion, to be discharged into a compartment prepared therefore, or into the ash-pit, allowing their final exit to be downwards, on to, or towards, the ground. For the purpose of economising heat, we, in general, construct a metallic water box, or chamber, made flat, cuplaved on all sides, and of such size as to occupy the area of the fire-box, and this, by means of suitable tubes, we connect with the water tank, so as to allow water to flow into it; and we also connect with it the tubes of the supply pump, so that the water flowing in from the tank on one side, and heated to a considerable extent by the heat from the ash-pit, and from the escape steam, on its passage to the opposite side, may go to supply the boiler."

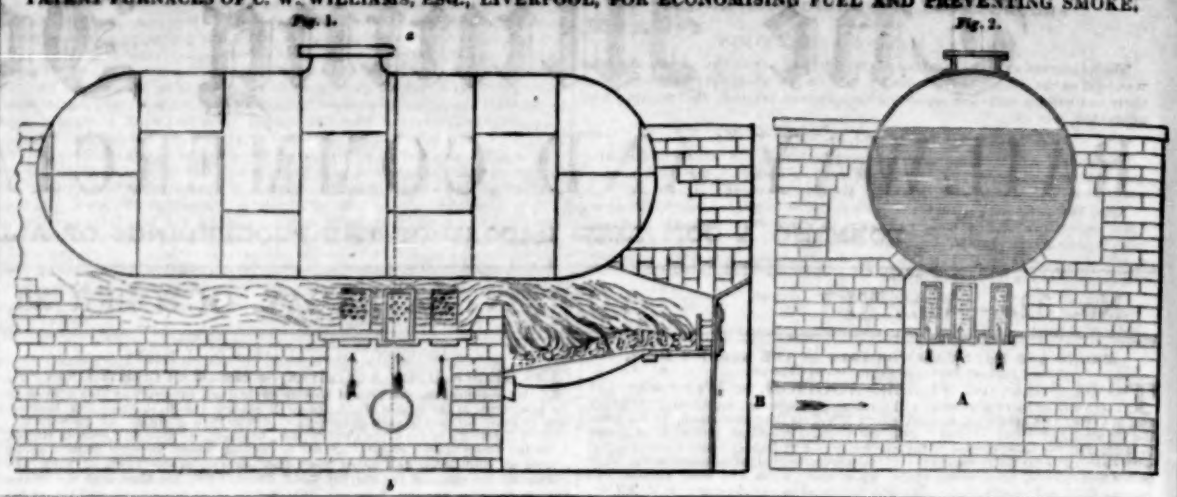
"Having thus fully set forth the nature of our invention, and shown the manner in which the same is to operate, what we claim therein, and desire to secure by letters patent, is the extending of the exhaust steam pipes downwards, and into a flue passing horizontally along under the boiler, into a compartment in the lower end of the fire-box, which compartment may consist of the ash-pit, or of one specially prepared for the purpose, substantially in the manner set forth. We also claim the manner set forth, of heating and using a water-box, constructed in the way, and employed for the purpose herein set forth."

William C. Poole, Lancaster, Pennsylvania, for improvements in the mariner's and surveyor's compass, July 31.—The patentee says—"The nature of my invention consists in a fixture, to be a tacket to either a surveyor's or mariner's compass, by means of which the absolute variation may be ascertained by the meridian sun. The fixture is provided with reflectors, one moveable, placed at right angles with the sights of the compass, and the other stationary, attached to one of the sight vanes, in which an observer may, by the action of the moving reflector, see the sun at meridian."

"What I claim as my invention and discovery, and desire to secure by letters patent, is the method herein described of obtaining the meridian line, and thereby ascertaining the variation of the needle, by means of a compass constructed with a fixed and moveable reflector."

* From the *Practical Mechanic and Engineer's Companion*, a monthly periodical just commenced at Glasgow, containing a great variety of useful and instructive information, and of the illustrations of which we should have entertained a far higher opinion than we do, had they not made such unscrupulous use of our columns with out suitable acknowledgement.

PATENT FURNACES OF C. W. WILLIAMS, ESQ., LIVERPOOL, FOR ECONOMISING FUEL AND PREVENTING SMOKE.



It has with great justice been remarked by Professor Brande, "that, when scientific men urge new views, or suggest the practical adoption of rational theories, they are neglected, because it is presumed they are merely founded on unsubstantial hypotheses; and, on the other hand, when practical men attempt to found improvements on scientific principles, they are sneered at as dabblers in science." Instances of the truth of this observation are unfortunately too numerous to require any very particular enumeration. Improvements of acknowledged merit are very tardily admitted into general use. Watt's improved steam-engines were not properly introduced until after he and his partner had stocked their premises with unsold work to the amount of 50,000*l.* The illuminating power of coal gas was long known before it superseded the dim uncertain light of common oil lamps and torches. And it is but another exemplification of the same spirit, that in an age which boasts of the rapid strides made in scientific knowledge by such men as Dalton and Faraday, we are conducting combustion in our steam-engine boiler and other furnaces, on a system not only most wasteful and deleterious to the surrounding atmosphere, but as unscientific and rude as can well be imagined. We contrive to burn our lesser fires—our Argand and "solar" lamps—without smoke; but our greater fires, our boiler and other furnaces, we allow to produce it in noxious abundance, and seem even to view its escape with some degree of self complacency, as an irrefragible proof of the industrious manufacturing operations carried on below.

The "chemistry of combustion" has by no one been carried out in a more practical and beneficial manner than by our esteemed correspondent, Mr. Charles Wye Williams, the author of *The Combustion of Coal and the Prevention of Smoke, Chemically and Practically Considered.** Mr. W. is the inventor of a furnace, so constructed as to revive, or keep up the combustion of the inflammable gases, which are now allowed in common furnaces to escape in large volumes at every fresh charge of coal. This invention he has had in practical use upwards of two years, and we understand with invariable success. It has been adopted both for land and marine engines, and is capable of being applied to all descriptions of furnaces.

The engraving, *fig* 1, shows a cylindrical boiler, the furnace of which, it will be observed, presents no external difference from a boiler of the common kind; all the new apparatus lies behind the bridge, where there is, what is termed, an air-chamber. The arrows represent the direction of the air through upright pipes, closed at top and drilled all round full of holes.

Fig. 2 gives a sectional view, taken vertically through the air-chamber A; and here the arrangement of the perforated tubes will again be seen, closed at top, but open entirely at their lower ends for a free admission of the air. They fit air-tight into an iron plate, covered over with fire-clay, and forming the roof of the chamber. The air is admitted to the chamber through the side wall at B. In *fig.* 1, the perforated tubes appear in the flame, though it answers fully as well, we are informed, to place them lower down. The plan, represented in *fig.* 1, has been found in practice very effectual in favouring the combustion of the gases, but it is only one of several arrangements, all on the same principle, to suit differently constructed boilers and furnaces, which arrangements it is not at present requisite here to discuss.

Most of the furnaces set up on Mr. Williams's plan have had one or more perforations made in the brick-work, with a spy-hole inserted to enable the attendants to observe the action of the flame behind the bridge and within the flues. It is almost impossible adequately to describe the difference in effect between the new and the old system. When the air-chamber is closed, and thereby rendered inoperative, all is dark, or at most, a dingy dull-red light appears, rendering nothing distinguishable. The moment air is re-admitted, it is like the rapid clearing up of a dense fog, and a return from night to the brightness of day. The large body of gas which enters at once into perfect combustion, produces a surprisingly beautiful smokeless flame and bright light. All the brickwork is distinctly seen, as clean as if fresh built. Every aperture in the pipes affords, in appearance, a gas flame. It is in reference to this latter effect, that Dr. Brett says, in a printed letter addressed to Mr. Williams, "by causing atmospheric air to be driven, by jets, among the inflammable gases, you employ, as it appears to me, the only means practicable, in operations on a large scale, of causing a sufficient mechanical admixture between the air and the gases to be burnt." A ton of good coal is estimated to afford 10,000 cubic feet of gas; now it would be worth the while of every calculating manufacturer, to take the trouble to inquire what portion of the gas thus produced in his furnace is absolutely so consumed, as for its heat to become available; and what portion is carried off by the draught in its impure unburnt state (but capable of being advantageously consumed), and condemned as being mere smoke. The crude gas issuing from a fresh supply of coal does appear thick and dark like smoke, but it has no sooty property, as may be proved by holding white paper above it on a common fire, or issuing from a small iron retort. If now inflamed, and thus imperfectly burned, it will afford abundant evidence of sooty smoke. It is this imperfect combustion, then, which takes place in every common furnace, and which Mr. Williams's improvements are calculated at once to remedy. It is not the burning of smoke that we ought to expect, but the prevention of the burning, and it is not saying too much in declaring the former to be an absolute chemical absurdity.

In towns and populous districts, the removal of the much-complained of smoke nuisance will ever be hailed as no small triumph of scientific skill and ingenuity; but apart from even this consideration, in neighbourhoods where bleaching is extensively carried on, it will prove highly important, and in many manufactures, where an intense and smokeless flame is required, this invention offers manifest advantages. Not the least of its merits is the fact of its allowing the perfect combustion of all the fuel on the bars, and of all the gaseous products of that fuel—so that where all is consumed, some great saving in consumers of coal must certainly be effected.

We understand that Mr. Williams's furnaces have been introduced in Liverpool and Dublin with eminent success, and that within the last few months, his agents, Messrs. Dinks and Co., of Manchester, have been actively engaged in erecting them for some of the first establishments in that town, and that an experimental furnace is being constructed by them, for public inspection, on some vacant ground in Fraser-street, near the Old Church. In no town, perhaps, could it be no more advantageously or severely tested; the smoke nuisance is there proverbial, and every scheme that has been proposed for abating it is well known there; and it is, moreover, the home of one of the most illustrious chemists of the age—the venerated Dr. Dalton—so happily styled by Dumas, "the Nestor of the physical sciences."

* Second Edition, illustrated with coloured diagrams, 8 vo. Simpkin, London, 1841, pp. 184.

ON THE MANUFACTURE OF IRON FROM THE FOSSILIFEROUS ORE OF PENNSYLVANIA.

BY PROF. J. C. BOOTH.

In the course of a recent tour on the Susquehanna, I had an opportunity of making a few observations relative to the iron manufacture, some of which I believe to possess sufficient value to be laid before those who are interested in this foundation of national wealth; indeed, it is desirable that a freer interchange of sentiment should be maintained on this subject, and as many ironmasters have made important observations in the course of their practice, I would suggest to them that their own interest lies in communicating such knowledge to the public, by its inducing a reciprocity on the part of others, for competition is less to be feared in this manufacture than in all others, since the consumption of iron will increase, at least, in proportion with its production. The hæmatites, and other ores of Pennsylvania, having been worked advantageously for a great length of time, I paid more particular attention to the "fossiliferous ore," which is beginning to be more appreciated than formerly, and for very good reasons; it is regularly stratified, easy of access, always lies in the vicinity of limestone, and is, in all probability, of very great extent. For a more full and comprehensive view of this deposit, I refer to the excellent series of Geological Reports, particularly the 2d, 4th, and 5th, presented to the legislature of Pennsylvania, by Professor H. D. Rogers, which are based upon the extensive series of observations made by that gentleman and his assistants.

At the Duncannon Ironworks, I was shown a portion of chilled iron, from the hearth stone of a furnace in which the soft variety of the fossiliferous ore had been employed; beside pure silica, which separates, and appears sometimes to have suffered fusion in this situation, a considerable quantity of pure metallic titanium was disseminated through the iron, and in a few points, it had separated somewhat in the form of a crystalline efflorescence, in which the cubical form could readily be detected with a microscope, and, in many cases, even with the naked eye. Upon referring to the analysis of this ore (Report 2d, p. 44; 4th, p. 191 to 195; 5th, p. 115 to 117), no trace of titanium being mentioned, should not excite surprise, when we recollect the difficulty of detecting it, unless its presence should be suspected, and when we reflect on the small amount in the ore that might be requisite to precipitate an appreciable quantity of it on the hearth-stones; beside, since this metal does not appear to combine with iron, nor to affect its quality, its detection in the ore is a matter of inferior moment, and I have merely introduced a notice of its presence from the interest with which it is regarded by those engaged in scientific pursuits. Another method by which it may be detected is to observe when the slag assumes a fine blue colour, for Karsten has lately discovered that this colour of the slag is due to the oxide of titanium.

A few hints may not be considered irrelevant in regard to the reduction of iron, which occurred to me in observing the ordinary processes, particularly at Danville. In roasting ores, which is generally regarded as an important preparatory step to their reduction, it is inadvisable to employ too strong a heat, for then the earthy materials and metallic oxide enter into a state of incipient fusion, which can be but imperfectly reduced in the furnace, and generally flow to the hearth in the state of slag; for although the carbonic oxide will act reducingly on its exterior surface, the inner, being completely enveloped in a compact cinder, can scarcely be affected. Probably the hard silicious ore requires less heat than most of the other ores of iron, and, indeed, I give it as my conviction, that if the cost be not too great, it would be infinitely better to subject it to a coarse pulverization by mechanical means, since there is so small an amount of volatile matter in it, that simple roasting will not render it sufficiently porous. If roasting the ore be still adhered to, nothing should be more strictly watched than the object in view, which is to drive off volatile matter, and render the ore brittle and porous, and nothing can be more injudicious than to apply a heat which will cause the ore to cake together, or become cindery, since it is then more difficult of reduction than the ore in its original state.

Another point that cannot be too much insisted on is the due and proper mixture of ores, and it might almost seem as if nature pointed out the propriety of this, in presenting the three varieties of ore in the same locality. It is a well ascertained fact, that a very large quantity of lime is requisite to bring silica into a fusible state, such as is necessary in the operations of the iron furnace, while a small proportion of alumina, in addition to those substances, requires less lime, and a much less intense heat, to form a perfect slag, or glass. Now it appears, from analysis, Report 5th, p. 116, that the silicious ore consists almost wholly of peroxide of iron and silica, with only ½ per cent. of alumina, and that the calcareous variety contains none, and Report 4th, p. 192, the hard ore contains a mere trace of alumina. In Report 2d, p. 44, the porous and soft ore contains 5 per cent. alumina, and in Report 4th, p. 191 and 192, a similar ore includes 5 and 6 per cent. of the same earth; hence it appears that the chief deficiency of the hard and calcareous ores lies in the want of alumina, which is contained in the soft ores; and that they should, therefore, be mingled in due proportion. If it is not always practicable to obtain a sufficient amount of aluminous ore for this purpose, the importance of having alumina present is such that it would become advisable to employ an argillaceous limestone as a flux, or even to use a clay, or other argillaceous material. If these points were to receive the attention they merit, I am convinced that ironmasters would not so often complain of the difficulty of reducing hard varieties of ore.—*Jour. of Frank. Inst.*

ASCENT OF THE YUNGFRAU BY PROFESSORS AGASSIZ AND FORBES, &c.—The party consisted of six travellers and seven guides; out of the party which started, four of the travellers, comprising Professor Agassiz of Neufchatel, Professor Forbes of Edinburgh, M. Chatelier of Nantes, and M. de Lapre of Neufchatel, and also four of the guides reached the top. They left the Grimsel, a house of refuge among the snow, on August 27, and crossed the vast mass of glacier between the Oberland and the Valais, crossed the upper glacier of the Aar, and over a colour icy summit 11,000 feet high. Descending with much labour for about five hours, the glacier of Viesch, they reached the chalet on the glacier of Aletsch, where they passed the night. This glacier they crossed early on the 28th, being all tied together by ropes, and passing some of the crevices of unknown depth, and too wide to leap, upon a ladder laid across. Some of them were very dangerous, from their coverings of soft snow, which concealed them; and from the edge of one they had to mount a wall of snow, to which they clung by digging their feet into it. This was soon succeeded by a slope of smooth hard ice, the greater part at an angle of 45 deg. and about 900 feet high, with precipices of immense height, descending to Grindelwald and the Roth-Thal on either side. To this they mounted by cutting with a hatchet a place for each footstep as they ascended, which required about two hours. From the top of this an inclined plane led them to the summit, which was a point from which they cut off the snow, to enable each in succession to stand upon it. They reached it at four p.m., a height of 13,768 English feet. The view was partially clear, and very magnificent, intersected by clouds rising from the valley, and some of them above 12,000 feet in height. The thermometer stood at 25 degrees Fahrenheit. They placed a flag on the top, and descended backwards by the icy stair they had cut, crossing the glacier by moonlight, and again reaching the chalet at half-past eleven, after a walk of nearly eighteen hours.

PROCEEDINGS OF PUBLIC COMPANIES.

BOLIVAR MINING ASSOCIATION.

The adjourned especial meeting of the shareholders in the above company was held at the offices, 9, Warnford-court, on Tuesday, the 26th inst., but there not being a sufficient number of proprietors present, the meeting was adjourned, *sine die*.

TAMAR SILVER-LEAD MINING COMPANY.

The annual general meeting of the proprietors in the above undertaking was held at the offices, 44, Finsbury-square, on Thursday, the 28th inst.

JOHN M'DONNEL, Esq., in the chair.

After the usual preliminary proceedings had been gone through, the directors' report was read by Mr. STAINSBY, as also a letter from Mr. Johnson, which gave a very promising account of the state of the mines. The statement of accounts for the year ending August, 1841, was then submitted, which showed the following results:—

General Statement of Accounts.

Dr.	£	s.	d.
Expenditure	9389	11	6
Balance in hand	149	1	2
	£10,539	12	8
Cr. RECEIPTS.			
Balance last meeting	£ 428	6	1
Ores sold	10,111	6	7
	£10,539	12	8
CASH IN HAND.			
Balance (in cash and bills)	£1,149	1	2
Reserve fund	278	18	0
Sub-sist	120	10	0
	£1,539	0	2

The CHAIRMAN observed that the accounts from the mine were highly satisfactory, and that the adventurers ought to be greatly obliged to Mr. Johnson for the trouble he had taken; he trusted that before long they would be in a situation to work the north part of the mine.

The report was then unanimously adopted; after which a tedious and uninteresting discussion ensued on the subject of a dividend, several shareholders desiring that one should be paid out of the 1140*l.* in hand, while on the other side the directors objected to increasing the amount of their liabilities, there being already bills to the amount of 3000*l.* out on discount, as the payment of a dividend could only be made by having the three months' bills they receive for their ore discounted, and, besides, it would leave the directors unprepared for any contingency that might occur.—Mr. STAINSBY stated that there was no doubt, if the mine continued in its present state, the directors would be enabled to declare a dividend by Christmas.—Mr. MURRAY then moved—"That the directors do make a dividend of 3s. per share, payable on the 1st of January next."—Mr. GROUT strongly objected to the motion, and moved as an amendment, that the words "if the funds are sufficient" be added.

A long conversation then ensued, during which the amendment was put, and the victory claimed by both parties—however, on some further explanations from the chairman and Mr. Stainsby, the motion and amendment, we understood, were withdrawn, the directors promising to make a dividend, if possible.

Mr. MALTBY then moved that the report and accounts be printed and distributed to the proprietors on application.—Mr. STAINSBY explained, that the directors were interdicted from publishing Mr. Johnson's letter, and that under the present circumstances of the company the publication of the report and accounts, for certain reasons known to the proprietors, would be likely to injure them instead of being beneficial.—The motion was, however, put, but negatived by a large majority.

Mr. HERON then moved the thanks of the meeting to the chairman and directors, which, being carried unanimously, the meeting adjourned.

MINING CORRESPONDENCE.

ENGLISH MINES.

HOLMBUSH MINING COMPANY.

Oct. 25.—I beg leave to inform you that the lode in the 110 fathom level west is one foot wide, and worth 8*l.* per fathom. The lode in the 100 fathom level, west of Wall's shaft, is fourteen inches wide, and worth 22*l.* per fathom. In the winze, sinking below this level, the lode is eight inches wide, and yielding a small proportion of ore. The lode in the eastern stopes, in the back of this level, is still a rich course of ore, twenty inches wide, and worth 45*l.* per fathom. In the western stopes, in back of ditto, the lode is eighteen inches wide, and worth about 30*l.* per fathom. The lode in the ninety fathom level west is fourteen inches wide, and worth 25*l.* per fathom. The lode in the stopes, in back of this level, is eighteen inches wide, and worth about 20*l.* per fathom. In the eighty fathom level, east of Wall's shaft, the lode is ten inches wide, composed chiefly of mundic, spar, and capel. In the eastern winze, sinking below this level, on the south lode, the lode is still about six inches wide, and worth 8*l.* per fathom. In the western winze, below this level, no lode has yet been taken down. The lode in the stopes, in back of ditto, is still about two feet wide, and worth 40*l.* per fathom. The ninety fathom level, on the south lode, the seventy fathom level, on the Flap jack lode, and the rises in the back of the sixty-two fathom level, against Hitchins's and Bray's shaft, are without important alteration. The tribute pitches are still making favourable returns. F. PHILLIPS.

REDMOOR CONSOLIDATED MINING COMPANY.

Oct. 25.—In the cross-cut going east, at the sixty fathom level, the ground is not altogether so hard as it has been; we have driven about sixty fathoms from the shaft. At the fifty fathom level south we have just passed through an east and west lode; its size is from eighteen inches to two feet, composed of peach, spar, mundic, and some copper ore; since which we have also discovered the lead lode, which is thrown westward by the copper lode about three feet; it is six inches wide, and good work for silver-lead. In going north, at this level, the ground is very favourable for driving; the lode is from six to eight inches wide, and saving work. In driving south on the lead lode, at the forty fathom level, the lode is ten inches in width, composed chiefly of floccan and spar, with a small portion of lead ores; in the north end at this level the lode is four inches wide, and saving work. At the thirty fathom level driving east and west, the copper lode is much the same size in each end, which is about two feet, of capel, spar, abundance of mundic, and stones of copper ore. The lode in the east end, at Hurl-down, is one foot wide, and retaining its usual character; we have not yet found it in the western part. F. R. ROWE.

WEST WHEAL JEWEL MINING ASSOCIATION.

Oct. 25.—The Seventy Cross-cut South—Ground very favourable; we expect to cut the south branch, in this level, in the course of a few days. The fifty-seven east, on the south branch, is worth 6*l.* per fathom. The fifty-seven west, on Wheal Jewel lode, has not been taken down since our last; the stopes in the back of this level are worth 10*l.* per fathom. The rise in the back of the fifty seven east, on this lode, is worth 15*l.* per fathom, and we expect to hole to the winze in a few days. The thirty west, on Tolcarne lode, is worth 25*l.* per fathom, and the twelve west, on this lode, is worth 6*l.* per fathom. S. LEAN.

GREAT WHEAL CHARLOTTE MINING COMPANY.

Oct. 26.—In sending my report this week, I beg to say the lode in the eighty two fathom level, west from shaft, is five feet wide, turning out about 6*l.* worth of ore per fathom. The lode in the same level east is six feet wide, with some good stones of ore. The lode in the seventy-two fathom level, west from shaft, is four feet wide, but at present poor. The lode in the stopes, back of this level, west from shaft, is five feet wide, yielding four tons per fathom, worth 5*l.* per ton. The stopes in the back of this level, east from shaft, is worth from 18*l.* to 20*l.* per fathom. The end driving west from this place, on the north part of the lode, is worth 15*l.* per fathom; this part of the lode is two feet wide. The winze sinking under this level, east from shaft, is worth about 20*l.* per fathom; the lode in this winze is seven feet wide. The lode in the stopes, bottom of the sixty-two fathom level, west from shaft, is six feet wide, producing six tons per fathom, worth about 4*l.* 10*s.* per ton. I see no alteration in the engine-shaft since my last report. We have holed the winze sinking under the seventy-two fathom level, west from shaft, down to the eighty-two fathom level. The winze sinking under the sixty-two fathom level, on the north part of the lode, is worth about 7*l.* per fathom. S. TREVETHAN.

TAMAR SILVER-LEAD MINING COMPANY.

Oct. 25.—Our monthly setting being so near at hand (which is next Saturday), when we shall give you a more detailed report, I have only to say at present that the prospects of the mine are looking favourable; in the levels the 115 and 105 are the most cosy; the ninety-five fathom level is at present poor. In the eighty-five end we have a large lode, producing some good work. The seventy-five and forty-five ends are also producing ore, but not rich. We have sampled at this mine to day two parcels of silver-lead ore, computed 70½ tons—viz., No. 1, 56 tons; No. 2, 14½ tons, and have fixed on Wednesday, the 3d November, for the sale—samples of which have been forwarded to the different purchasers.

Oct. 26.—In giving you a report of the value for the last twelve months, I beg to say that we have driven and sunk about 720 fathoms in tutwork, and the greater part of the ground opened has been, and will, let at a moderate tribute. The ground driven in the 105, 95, 85, and 75 fathom levels, has been most productive; and in the 115 fathom level there has been an improvement in the last ten fathoms driving, which will also let on tribute at an advantage. We have found Mr. Jonkonsen's foul-air machine to be of great service to us in driving this and the 125 fathom level. The prospects at present in the different levels are as follows:—In the 125 fathom level the lode is about six inches wide, producing a small quantity of ore. In the 115 fathom level the lode is two feet wide, one foot of which is good work. In the 105 fathom level the lode is one foot in width, and producing good ore work. In the ninety-five fathom level we have driven a great number of fathoms, in ground that has been let on a low tribute, though the lode is at present small and unproductive, yet, judging from the ground that we have driven through in the level above, we may expect to have an improvement here again soon. In the eighty-five fathom level the lode is three feet wide, producing some good work, in a soft congenial spar. In the seventy-five fathom level the lode is nearly two feet wide, producing silver-lead ores, in a promising strata. In the sixty-five fathom level the lode is two feet wide, composed of fluor-spar, capel, and a small quantity of ore. In the forty-five fathom level the lode is three feet big, one foot of which is producing grey work. In conclusion, I beg to say that the mine has improved the last three months, as you may see by the last three samplings, and, judging from the present prospects, we may expect to continue our present returns. The improvement in the underground departments has been the means of increasing our halvans, so that our present stamping power is not sufficient to stamp the whole raising, but, according to your direction, we are about to fix six additional stamping heads to the steam-stamps. J. SPRAGUE.

TREVOIL MINING COMPANY.

Oct. 25.—In consequence of alteration, the pitwork, and the late floods, we have not been able to do anything under the thirty fathom level since our last report, but we expect in our next to be able to report from the deeper levels. The lode in rise, in the back of the thirty fathom level, east of Williams's shaft, is two feet wide, very good tribute ground. Tregellas's lode, at the twenty fathom level west of Johns's shaft, is one foot wide, tribute ground. Johns's lode, at the same level, is four inches wide, tribute ground. The Mine park lode, at the adit level, driving east of Morcom's shaft, is six feet wide, very good tribute ground for tin. H. WILLIAMS. J. MORCOM.

UNITED HILLS MINING COMPANY.

Oct. 25.—Twenty Fathom Level—The lode in this end is two feet wide, producing some ore—a little improved since last week. Thirty Fathom Level—Lode five feet wide, two feet ore of a fair quality. Thirty six—We can report no alteration in either of these winzes since our last. Forty Fathom Level—In this end the lode is two feet wide, with but little ore. Forty-six Fathom Level—In driving east from Turton's shaft the lode is three feet wide, intersected with some good branches of ore. West of ditto—No ground driven for the past week. Fifty Fathom Level, driving east from Eastern Shaft—The lode is four feet wide, two feet on the north part very good ore. Diagonal Shaft—No ground sunk since our last report. Sixty Fathom Level, east of Williams's Shaft—The lode is three feet wide, one foot ore of a fair quality. West of Williams's the lode is three feet wide, with stones of ore. Williams's Shaft—No lode broken in Williams's shaft since survey-day. N. LANGDON.

TRELEIGH CONSOLS MINING COMPANY.

Oct. 23.—The seventy east continues poor, and this level west is in disordered ground. The Sixty West—The lode has not been taken down since my last report; the winze sinking under this level is opening tribute ground. The lode in the fifty west continues a good size, and worth 35*l.* per fathom; in this level east the lode is good going up. The whole of the tribute department is looking well. At Good Fortune we have commenced sinking under the forty four, but have not taken down the lode. The forty-four east is worth 10*l.* per fathom, and this level west is worth 3*l.* per fathom, with favourable symptoms. The tribute department here is also looking well. W. SINCOCK.

TREGOLLAN MINING COMPANY.

Oct. 25.—In sending you my report to day, I beg to say that the different levels are progressing in favourable ground, and that we have had no alteration in the lodes worthy of remark since my last. The tributers are working steadily, and raising a fair quantity of ore. J. NINNIS.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINING ASSOCIATION.

From the Chief Commissioner.

Rio Janeiro, August 31.—It is with much satisfaction that I am enabled at length to announce to you the passing of your deposit question in the Chamber of Deputies on the 27th instant. My reports to you, in regard to this question, have invariably stated, that it required only the opportunity of being brought under discussion, upon its own merits, to be carried by an almost unanimous vote, and without an opposing observation, and the results have justified my anticipations and assertions. The Minister of Finance has informed me, in an interview I had with him on the 29th instant, that the money would probably be paid to the association in October. From my knowledge of the manner in which public business proceeds in this country, I cannot encourage the expectation of so early a settlement, but the great point gained is to be sure of the payment at no distant period. This measure, it is true, has still to pass through a third reading in the Chamber of Deputies, and afterwards through the Senate, but the third reading in the Chambers is almost but a mere formality, and I do not expect any effectual opposition in the Senate, more particularly as the question will appear before that branch of the Legislature as a part of the Budget, at a period of the session which will not admit of the introduction therein of amendments, which would, from the necessity of a reference back to the Chamber of Deputies, endanger the voting this session of the means to carry on the business of the state. The session is prorogued to the 3d October. G. V. DUVAL.

Gold report from August 3d to 12th (nine days), 22 lbs. 11 oz. 9 dwts.—Total from 1st July to 12th August, 143 lbs. 12 oz. 16 dwts. 12 grs.

NATIONAL BRAZILIAN MINING ASSOCIATION.

Extract from the Mining Captain's Report.

Cocaes, August 18.—It is, indeed, with feelings of gratification, which I will not attempt to describe, that I do myself the honour of writing upon you with the present report of the mining operations here since the 6th inst., and most sincerely do I congratulate you upon the realisation of the promises held out in my last. Not the slightest impediment having intervened since the time just alluded to, in respect to carrying on our subterraneous excavations, we have been able to supply Reid's stamps regularly, and to keep them thereby incessantly at work, and it is most exhilarating to all on this side that from these alone we have obtained, during the last ten days, 11 mes. 1 oz. 6 dts. of gold. This, of itself, speaks highly for the section of the mine we are now almost wholly confining our proceedings to, and every possible effort is to application to supply M'Donnell's stamps from this quarter also. Produce of gold from Reid's stamps, as above, 11 mes. 1 oz. 6 dts.

BRAZILIAN COMPANY.

Cata Branca, August 14.—The gold report, you will observe, shows an improvement, and I hope not to let it fall back again. The new No. 1 stamping-mill is all but ready; with its help, and the rains, which also will soon come to our aid, I look to sending you better returns. Our sick list keeps below the average. W. CUTHBERTSON.

Gold return for week ending 13th August, 19 lbs. 8oz. 1 dwt. 4 grs.

MINING NOTICES.

[Under this head we purpose collecting such paragraphs as may appear in the provincial and other Journals, having reference to discoveries and improvements in mining operations at home and abroad. It is hardly necessary to observe, that we must not be considered to admit the correctness of the information conveyed, which, in too many instances, requires cautious investigation—the sanguine expectations of parties to whom instances, and the want of honesty in others, throwing a degree of responsibility on a Journal in giving publicity to reports, which we do not intend taking upon ourselves.]

IRISH SLATE QUARRIES.—The subterraneous wealth of Ireland is proving, we are happy to say, more deserving the attention of public companies and spirited individuals, as the mineral state of our country is developed. Several mines left unworked for years, the ugh want of capital or insufficiency of working, are now, by improved systems, producing more abundant returns, and Ireland, in many parts, is at length becoming a rival of no slight consequence in point of productiveness of tin ores, beds of coal, and quarries of superior slate and marble, to her richer and more fortunate sister, England. Slate quarries which, from their central position and very superior texture and quality, as appears from a report lately made on the Ross slate district and quarries, by Mr. St. Pierre Foley, mining engineer, &c., are likely to supersede the necessity of purchasing from a Welsh market, are now extensively open, and in a most forward state of working, with proper machinery, &c., by W. Hill, Esq., the agent of Lord Donoughmore, at Ross, near Killarney. We are happy to call the attention of purchasers to those quarries as the excellence of the slate, but much more as sincere lovers of our country, for the national good which must arise in support of Irish produce, and in calling the national resources of Ireland into full action.—*Waterford Chronicle.*

MINE ACCIDENTS.

Fitzroy Field Colliery.—R. Robinson met his death from injuries received from an explosion of fire-damp; he was employed at this colliery, and provided with a safety-lamp, as well as the rest of the men, but had improperly gone to work with a lighted candle, unprotected, whereby an explosion took place.

Bates and Tee's Coal-mines, Dukinfield.—J. Thory met an untimely end at one of the collieries belonging to these gentlemen; he was an engineer, and at the time of the accident was engaged in repairing a pump, when he attempted to slide down the shaft of the mine by means of a rope, which he fastened to a block on the bank, but the rope not being securely fastened, gave way, and he fell to the bottom.

WICKSTEED ON THE CORNISH ENGINE.

About twelve months ago an account was given in our columns of the Cornish engine in operation at the East London Water-works, at Old Ford, Bow, in which we remarked upon its superiority over the Bolton and Watt engines, and on the saving of coals resulting from its introduction to the company, together with other details on its efficacy and economy. Our attention has just been again directed to this subject by the publication of a work, by Mr. Wicksteed, the engineer to the East London Water-works, in which the results of his observations on the power of this engine are given in a scientific and statistical manner.

The publication is entitled *An Experimental Inquiry concerning the Relative Power of, and Useful Effect produced by, the Cornish and Bolton and Watt Pumping Engines and Cylindrical and Waggon-head Boilers*; it is a work of universal interest to all persons in any way connected with water companies, and to engineers and men of science a most valuable addition to the information already in their possession. The book, or paper, as it is more modestly called by the author, was, as the preface says, "originally intended for the Institution of Civil Engineers, but as the details were not completed in time to allow of its being read before the institution (although its reception was announced at the last meeting), the council, to prevent the delay that would have occurred if it were retained until the next session, has kindly permitted' the author to withdraw it, for the purpose of publication in the present form.'

The great merit of this paper is, that the statements made in it are the result of observations upon facts which have been immediately before the eyes of Mr. Wicksteed, that it is strictly a practical discussion of the subject, and not a theoretical argument for the establishment of particular views or prejudices. The contents establish the point contended for, and, besides corroborating the accuracy of the judgment of the writer, show an indefatigable attention to the duties of his situation, and a zealous energy for the advance of truth. The whole is written in the unaffected style of a man anxious only to advance the objects of his profession, and show that his views have not been erroneous. It is divided into two parts—the one treating of boilers and the other on engines; and, in addition, there is an Appendix, furnished with explanatory tables, &c., showing the results of experiments. The paper, it may be well to say, is published by Mr. Weale, Holborn, and ought to be in the hands of all engineers and men of science, and proprietors of water-works.

PROFESSOR WHEWELL.—The friends of science will be happy to learn that this talented gentleman has been appointed Master of Trinity College, Cambridge, vacant by the resignation of Dr. Wordsworth.

DEAN FOREST MINES.—We understand that active measures have been taken by the commissioners appointed under the 1st and 2d Victoria, c. 43, for the purpose of ascertaining the boundaries of the forest, and inquiring into the rights and privileges claimed by the free miners; the whole coal district has been surveyed and mapped, and the claims of free miners to coalworks and mining ground have been investigated and decided on. Similar proceedings are engaged in with regard to the iron mines and quarries.

MINING IN PORT PHILIP.—From papers just received from this colony, under date the 17th May, we find that the formation of a coal mining association for the exploitation of coal strata found in the colony is mentioned, but there appears to be difficulty in bringing it to a successful issue, and some of the parties, dissatisfied, had commenced coal mining on their own account.

ROYAL POLYTECHNIC INSTITUTION.—ARTISTS, ENGINEERS, and INVENTORS of merit, will in future have their works illustrated and described in rotation, with the view of further promoting and securing the public attention to their objects, and of increasing the variety of new popular lectures. The subject of one of the new lectures is Professor CLARK'S patent process for PURIFYING the WATERS SUPPLIED to the METROPOLIS. The DISSOLVING VIEWS, with additions. The DISSOLVING ORRERY, MICROSCOPE, and nearly 200 works of eminent art, science, and ingenuity. DIVER and DIVING BELL. A VIEW of CANTON, elaborately finished by a Chinese artist, and other COSMORAMIC VIEWS, are added in the evenings. Several admired airs in the music are new, and composed expressly for the Institution by Mr. T. S. Wallis, the conductor. Admission to the whole, 1s. Not open on Saturday evenings.

THE CORNISH ENGINE.—Mr. Weale has published AN EXPERIMENTAL INQUIRY concerning the RELATIVE POWER of, and USEFUL EFFECT produced by, the CORNISH and BOULTON and WATT PUMPING ENGINES, and CYLINDRICAL and WAGGON-HEAD BOILERS, by THOMAS WICKSTEED, M. Inst. C. E., &c.

In quarto, extra cloth boards, price 5s.—5, High Holborn.

Just published, Part I.,

COMBUSTION of COAL, CHEMICALLY & PRACTICALLY CONSIDERED. With coloured plates.

By CHARLES WYE WILLIAMS, Esq.

London: Simpkin, Marshall, & Co., and J. Weale; Birmingham: Wrightson & Webb.

THE INVENTORS' ADVOCATE, AND JOURNAL OF INDUSTRY; a WEEKLY BRITISH and FOREIGN MISCELLANY of SCIENCE, INVENTIONS, MANUFACTURES, and ARTS, is the most unfolded comprehensive work of the kind published. It contains the scientific intelligence of the week; correct information on railways and steam navigation; list of patents granted and expired; specifications and descriptions of new inventions; reports of scientific meetings, and original papers on manufactures and the arts; with a variety of information interesting to inventors and patentees. It is not only a journal of interest for the day, but forms a standard work of reference, valuable to persons engaged in scientific, manufacturing, and mechanical pursuits. Vols. 1, 2, 3, and 4, neatly bound, are already published, and the 5th Vol. is now in course of publication.

The *Inventors' Advocate*, price Fivepence, postage free, is published weekly, by the proprietors, at the patent office, No. 166, Strand, London.

NEWTON'S LONDON JOURNAL of ARTS & SCIENCES, No. CXIX. (Combined Series), for November, illustrated with three plates, contains the following interesting specifications:—Lambert's tape distributing apparatus—Farina's manufacture of starch—Vigoureux's ditto—Jefferies' furnace for smelting copper—Pattinson's manufacture of white lead—Leigh's ditto—Hanson's gas and liquor meter—Millet's furnace fire grate—Newton's multiplying machinery—Unsworth's cultivating—Berry's propelling—Ryder's forging shafts, &c.—and Ash's engine—Transactions of the Society of Civil Engineers—List of patents granted for England, Scotland, Ireland, and France—Celestial phenomena.

Published monthly, by W. Newton, at the office for patents, 66, Chancery-lane, London, and Town-hall buildings, Manchester; Sherwood and Co., Paternoster-row; Simpkin and Marshall, Stationers'-court, and sold by all booksellers.

On the 1st of every month, price 1s., handsomely printed, with an original engraving of some interesting subject,

THE SURVEYOR, ENGINEER, AND ARCHITECT.—The plan of this work is altogether new, and different from that of any other periodical. The matter is almost entirely original, and either wholly or in notes from eminent gentlemen in all the professions, but whose names, for obvious reasons, are not given. The leading subjects of which the work treats are architectural, engineering, including agricultural engineering, which is not treated on in any other work, and surveying. It is not a tedious report of what is doing in these or any of them, for, besides present operations and subjects, it is both retrospective and prospective. From the first of these there are obtained experimental data for present and future works, while the second points out what ought to be done in each department, with the best and most economical method of doing it. Along with this there are given retrospective reviews of former works and books, together with original notices of the character, progress, and principal doings of the more eminent men in all the three professions. The utmost care is taken in verifying the data, and the style is as brief and clear as possible. Comparatively, little is devoted to matters which will pass away with the day, and thus the Journal will be a permanent work upon the most important subjects. The Number for December will complete the second volume, which may then be had of all booksellers, handsomely bound in cloth.

Contents of the November Number:—Agricultural engineering—Ohm and their influence—underdraining—on surveying a city or town—history of architectural competitions—competition for Camberwell Church—suspension bridges in the Regent's Park—letter to the Editor on the Corn Laws—the Westminster Review, No. 71—review of books—proceedings of the Institution of Civil Engineers—Mr. Brooke's theory of bar rivers—miscellaneous—list of patents.

THE ONLY PAPER EXCLUSIVELY DEVOTED TO RAILWAY INFORMATION.

THE RAILWAY TIMES, published weekly, price 6d. stamped, contains full and accurate reports (taken exclusively for this paper) of all railway meetings, with directors' and engineers' reports, and other official documents at length—authentic reports of the progress of railway works—notices of railway publications and plans—all important and private proceedings of Parliament on railway bills—notices of railway accidents of every kind—detailed reports of all new lines affecting railways—the fullest particulars of the rise and progress of foreign railways—complete railway share lists for London, Liverpool, and Edinburgh—railway traffic returns—and a great variety of explanatory information. The *Railway Times* is an excellent medium for railway and scientific advertisements.

Published every Saturday morning in time for the Morning Mails; office, No. 172, Fleet-street, opposite St. Bride's Church, London; and may be had of authorised agents in Liverpool, Birmingham, Manchester, Bristol, Bath, and Edinburgh; and by order of all booksellers and newsmen in Town and Country.

THE CITY CHRONICLE AND COMMERCIAL GAZETTE is published at the office, 10, Wellington-street, Strand, and 100, Fenchurch-street, every Tuesday afternoon, in time for post, price 6d., and is the only newspaper that combines the varied and interesting function of a commercial, family, and literary newspaper. In its mercantile department it contains a complete analysis of all the commercial transactions of the week, together with a mass of information relating to the Tea, Coffee, Sugar, Hop, and Corn markets, which can be found in no other journal. In its literary department, it gives impartial reviews of all new publications, music, works of art, the drama, &c., &c. In its columns will likewise be found a careful digest of the debates in Parliament, reported exclusively at the courts of law and police offices, and all the other news of the week. The City Chronicle has been established for more than two years, and it will be seen from the last stamp returns, published by order of the House of Commons, that it has attained a circulation considerably greater than that of many contemporaries possessing strong claims to the patronage of the public, and which have been much longer established. As a medium for advertising, the City Chronicle, from the extent of its circulation, and respectability of its readers, affords peculiar advantages

PUBLIC COMPANIES.

MEETINGS.

Basingstoke Canal Navigation	Law Institution, Chancery-l.	Nov. 1	3.
Monmouthshire Canal Navigation	Canal House, Newport	3	11.
Talacre Coal and Iron Company	Office	5	12-1.
Newport Dock Company	Office	4	12.
Margate & London Steam-Packet Co.	Town-hall, Margate	6	10.
Imperial Continental Gas Ass'n	7, White Hart-court, Lombard-st.	10	2.
Productive Life Assurance Society	Office, 29, Moorgate-street	11	12.
Mexican and South American Co.	9, New Broad-street	11	1.
Imperial Brazilian Mining Ass'n.	London Tavern	16	2.
British Iron Company	London Tavern	19	12-1.

CALLS.

St. John del Rey Mining Co.	10s.	Nov. 9	Barclay and Co.
London and Blackwall Railway	2l.	16	Office.
Alten Mining Association	1l.	28	34, Broad-street-buildings.
Cambrian Iron and Spelter Co.	2½l.	Dec. 29	London Joint-Stock Bank.

DIVIDENDS.

Cobre Copper Mining Company	2l. per share	Office	Oct. 28.
United Hills Mining Company	10s. per share	Office	28.
South Caradon Mine	10l p. 128th sh.	East Cornwall Bank, Liskeard	–.

NOTICES TO CORRESPONDENTS.

HYDRAULIC RAILWAY.—If Mr. Shuttleworth wishes to give publicity, through our columns, to statements that have already been printed, with reference to his Hydraulic Railway, he must do so by advertisement; we shall be happy to insert any new facts or arguments he may have to submit, and on which we shall, probably, make some comments, but our space is too much occupied to admit of the insertion of long papers that have previously gone the round of the press.

"Argus," on the Talacre Coal and Iron Company, has been received, but its great length, and the late hour at which it reached us, compels us to defer its insertion.

MINERAL RESOURCES OF BELGIUM.—We have an article in type descriptive of the coal and iron mines, marble quarries, &c., of Belgium, which will be inserted in our next.

We are compelled to postpone the conclusion of the paper on the Collieries of Halifax and its Neighbourhood, together with several other papers and miscellaneous articles.

TALACRE COAL AND IRON COMPANY.—We are given to understand, on good authority, that the Mr. Wood, "lawyer and trustee," referred to in the letter of a correspondent, which appeared in our last week's Number, is not Mr. Alderman Thomas Wood of Talacre notoriety. We feel it due to Mr. Alderman Wood to state thus much, as, from the similitude of name, and position as "lawyer and trustee," the report might be supposed to apply to that gentleman.

We are indebted to our very useful contemporary, the *Mechanics' Magazine*, for the paper and engravings descriptive of Mr C. W. Williams's Patent Furnaces for the Consumption of Smoke, inserted in another column. We have pleasure in acknowledging the compliment, from the readiness evinced by the Editor (as also on former occasions) in favouring us with engravings, thus avoiding inaccuracies which too frequently occur in the copying of cuts illustrative of scientific subjects.

The reports of the proceedings of the Geological Society and the London Electrical Society, will be inserted next week.

In consequence of the numerous applications made to the Editor on subject of Advertisements which have appeared in the columns of the MINING JOURNAL, *with reference to articles or materials used in the working of mines and the construction of railways, arrangements have been partially effected, whereby all information necessary can be acquired on application at the office of the Journal, as also references made to the various models, plans, drawings, and specifications, and where specimens may be seen, it being intended to devote a room to that express purpose.—It is further announced, that measures are in course of being taken for rendering the office of the* MINING JOURNAL *the medium of acquiring information on all matters connected with mineral property, where plans and particulars of estates and mining materials for disposal may be consulted and obtained. Experienced agents in the several mining districts will undertake surveys and furnish plans, sections, and reports, on mineral property and mining undertakings.*

THE MINING JOURNAL

Being extensively circulated among the monied and influential interests, offers peculiar advantages and facilities in giving publicity to all matters with which the capitalist, and the proprietor in joint-stock companies, may be interested. The advertisements inserted in the Journal are confined to prospectuses of new undertakings; notices of meetings, calls, and dividends; contracts for works; sales of mineral and landed property; descriptions of new mechanical inventions; scientific institutions, works, and notices—thus all advertisements possess the unusual advantage of being associated only with others of a like nature, and being brought immediately under the notice of the parties interested.

SCALE OF CHARGES.

One column	£6 6 0	Twenty lines	£0 16 0
Half a column	3 3 0	Fourteen lines	0 12 0
Quarter of a column	1 12 0	Ten lines	0 8 6
Eighth of a column	0 16 0	Eight lines	0 7 6

IMPORTANT NEWS FROM AMERICA.

ACQUITTAL OF M'LEOD, AND LIBERATION OF GROGAN.

The British and North American Royal mail steamer *Acadia* arrived at Liverpool at a late hour last night; she sailed from Boston on the 16th, and Halifax on the night of the 18th inst.; and has, therefore, completed the passage (including a stoppage of eight hours at Halifax) in 13 days and 6 hours. She has brought seventy-six passengers. By this conveyance we have received New York papers to the 15th, Boston to the 16th, and Halifax to the 18th inst.; the contents of the American papers are highly important.

The trial of M'LEOD, which commenced on the 4th, terminated on the 12th instant, in the ACQUITTAL of the prisoner; the verdict of the jury seems to have given very general satisfaction.

GROGAN, who had been seized and captured by a band of volunteers from the British territory, had been liberated by the Canadian Government.

The papers congratulate the friends of peace in both countries on the prompt manner in which an affair which might have led to difficulties between Great Britain and the United States had been settled.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, OCTOBER 30, 1841.

The remarks made in a late Number on the sale of tin by the Miners' Company, have elicited from a correspondent, whose letter appears in our columns, some observations which we are ready to admit being pertinent to the question, at the same time that we are not prepared to admit his premises. It is not, however, for us to discuss those points which appertain to the company, but simply to answer for ourselves.

It may well serve our correspondent to seize upon some isolated paragraph on which to argue or comment; we will give him even this vantage ground, and would take his letter, paragraph by paragraph, but there are several points whereon he desires information, on which we do not feel it our duty to enter, inasmuch that those interested in the Miners' Company are not only the most fit, from their knowledge of its affairs, but, indeed, the proper source from whence such replies should emanate. Without recapitulating the sentence to which "A Seller of Ores" directs attention, it may be sufficient to repeat our conviction, that although the mercantile body and the consumers could not be congratulated on the result of the sale, yet that it was of a satisfactory nature, so far as affected the miner and the company—the prices of tin being maintained contrary to the strongly expressed opinions of parties in the metal market, and those inimical to the interests and success of the Miners' Company.

For us it is sufficient that the representations made were well founded; the facts, that four fifths of the tin put up for sale was taken by the merchants, and that the market was firmer for prices subsequent to the sale, being incontrovertible. We did not make the assertion without being assured of the correctness of our observations, by application to more than one quarter, from whence the information derived could not be deemed otherwise than authentic.

We doubt not but that the several points mooted in the able letter of our correspondent will elicit some communication from the parties most interested in the question, and that he will find in our columns of next week a reply. Should such not be the case we shall be ready to enter on the subject, although it is not our province, nor are we disposed, to become the representatives of the Miners' Company.

The responsibility question is one ably put, and requires a reply, and, with the view of helping the elucidation of the subject, we have made up the following table of sales by public Ticketing of black tin for the twelve months ending 30th September. We will endeavour next week to obtain statement of private sales, so that a comparison may be made—perhaps our correspondent, who is so conversant with the subject, will oblige us with some figures.

PUBLIC SALES OF TIN, BY TICKETING, FOR TWELVE MONTHS ENDING SEPTEMBER 30, 1841.

	Tons.	Amount.
Charlestown	572	£29,173 3 7
Wheal Mary	245	12,767 13 0
Budnick	185	8,866 16 3
Polgooth	129¾	6,266 7 7
Carnon	99½	4,890 0 0
Trevidgia	48¾	2,551 7 6
Bottle Hill	15	651 11 3
Wheal Friendship	9½	423 6 3
St. Blazey Consols	6¾	289 1 10
Rosewall Hill	5¼	275 13 9
Total	1316¾	£56,155 1 0

We are free to confess, that we pride ourselves on being the advocates and supporters of an establishment which has for its object the protection of the home miner, affording him the full advantages which are to be realised from the smelting and sale of his ores: and, without any bias in favour of the Miners' Company, we shall ever be found ready to discuss the question with reference to the interests of the miner and mine adventurer.

The ill-success which has too generally attended public companies formed for working mines has been attributed to various causes, but, perhaps, none to which it applies more particularly than to those associated with the management of the undertaking. If we refer to the various companies formed since the year 1824 we shall find the board of directors to be composed of men who never walked over mineral ground—who were absolutely ignorant of underground operations—and who even, after years' practice knew not what was meant by a mine being "in fork;" and this, unfortunately, is equally applicable to the directors of the majority of mining adventures of the present day. It is to the ignorance of such parties that we have to date the abandonment of many undertakings, which, under practical and vigorous management, might have been rendered productive, and it is with the view of remedying the evil that we are now induced to enter on the subject. If that a mine is to be worked in Cornwall by London proprietors, we must needs have a confidential agent at the mine, to be sent from town, with a salary some three or four times that which would be paid to an intelligent man resident in the county, and who possesses practical knowledge with local experience, which cannot be expected from the agent so appointed; to which must be added a board of directors in London, auditors (in some cases), a secretary, clerk, and expenses of office department, which cannot be set down at less than 500*l.* per annum, however much that amount may be exceeded. Let us, then, look at the consequences arising out of this system. We have first of all a man ignorant of mining operations appointed as the manager (!) or cashier in Cornwall; we next find an incompetent board of management in London, who meet weekly to receive the report of the mining captain (which, when before them, they are incapable to understand, or to form an opinion upon)—the directors, perhaps, enter their names in a book to warrant the receipt of their allowance, and having gossiped on the Exchequer Bill transaction, change of ministry, the corn laws, or other subject of immediate interest, take their hats and departure. Now it must be manifest to all reasonable men that the system is bad—that it is adopted as the means of abstracting from the funds of the company such as should either be applied to the prosecution of the workings, or a division among the proprietary by way of dividend, merely to pay to a set of directors (whose services are in most cases worthless) monies to which they are only entitled by virtue of the office they hold.

These facts have been forced upon us from the circumstance of dividends being required by shareholders where a small excess of returns has appeared, which, when compared with the amount paid for management, has created some surprise on our part that they could be so blind to their own interests as not to require an alteration in the latter, so as to give an increase to the former. What, we would ask, is required of a board of directors of some eight or dozen, who are to receive their 50*l.* or 100*l.* per annum? Take the Imperial Brazilian for example, and the *exposé* which took place on the failure of Mr. T. A. CURTIS, which was noticed in the Journal at the time. We find, too oft, that parties make directorships a profession—a trade—and it will be our object (for we are collecting data for such purpose) to make a list of the several directors, placing against their names the various companies with which they are connected, their salaries from each, and, where practicable, the respective interests they hold. We feel convinced that a table of this kind will convince shareholders that, in too many instances, they have not only men who are incompetent, but who are actuated alone by sordid motives.

It may be asked, what would we propound? what is the course we would advise?—this is readily told. Have not a host of directors (assuming them to be competent), who neglect your affairs, leaving it to others to perform; but, as regards your mining operations, appoint a man of character and ability, in whom place your confidence; take then an independent man of mercantile experience to act as secretary or manager in London; let three proprietors be appointed as auditors or directors (for the term means nothing), to inspect at all times the accounts, to audit the monthly cost sheets, and to report to the general meetings of shareholders. Thus money would be saved—the parties so employed being selected, not on account of the interest held by them as shareholders, but for the ability they possess—even taking parties in no way connected with the company, but who are able to fulfil the duties imposed upon them, rather than incompetent men, however large may be their interest in the undertaking.

We sincerely believe that mines have been "knocked," nine times out of ten, solely from want of practical management, for hardly a day passes without instances coming before us of the ignorance of parties to whom the management is confided, and who, with all honesty of purpose, lose their own money and sacrifice that of their co-adventurers. The system must be put an end to, for it is hurtful to the mining interests—those we profess to support—and while there is cause for complaint, the columns of the MINING JOURNAL will ever be found the medium of affording protection to the working miner by the exposure of abuses.

We last week submitted some tabular matter with reference to the product of our home and foreign mines, and now have to direct attention to the accompanying table of the "Sales of Ore by Ticketting at Swansea," for the past three years, which will be followed in our next by the produce of the several mines in Cornwall for the like period—thus bringing before our readers that data which will enable them to arrive at conclusions, whereby the question, as regards the policy of an import duty on foreign ores, may be fairly considered.

We postpone any observations on the subject until the whole of the tabular matter is placed before our readers—that done, with the assistance of some of our able correspondents, whose co-operation we calculate upon, we hope to be able to make out a case which will justify the interference and protection of Government.

SALES OF ORE BY TICKETING, AT SWANSEA,

FOR THE YEARS ENDING 30TH JUNE, 1839-40-41.

	Years.	Tons.	Average price.	Amount.
FOREIGN MINES.				
Cobre	1839	7763	£18 4 11	£141664 19 0
"	1840	12954	16 10 2	213872 19 0
"	1841	29183	16 0 0	351821 19 6
Chili	1839	6064	21 12 8	131185 9 6
"	1840	7436	28 8 0	213872 19 0
"	1841	9016	23 0 0	207271 19 0
Cuba	1839	2615	18 9 3	48283 19 6
"	1840	2080	14 12 4	30406 16 6
"	1841	1224	18 8 0	22522 17 0
Copiapo	1839	2154	18 7 9	39608 16 0
"	1840	877	20 3 8	17704 10 0
"	1841	1162	23 19 0	27843 8 6
Valparaiso	1839	1929	21 10 4	41510 6 6
"	1840	1547	19 7 3	29955 16 0
"	1841	473	21 12 6	10229 13 0
Coquimba	1839	236	13 12 9	3219 6 0
Cobija	1839	164	16 15 0	2746 16 0
Florence	1840	29	26 17 6	779 7 6
Havannah	1841	83	12 13 6	1052 0 0
America	1841	140	5 14 6	800 0 0
Mexican	1839	66	10 8 1	686 16 6
Norway	1839	733	13 19 8	10250 16 0
"	1840	330	19 6 7	6397 13 0
"	1841	93	9 1 0	840 14 0
		88,351	£17 11 6	£1,554,529 17 0
MINES OF IRELAND.				
Knockmahon	1839	7790	£7 19 2	£62006 7 6
"	1840	6823	7 9 3	50919 19 0
"	1841	8455	8 11 0	72301 15 6
Allihies	1839	4886	8 17 6	43358 17 6
"	1840	5319	8 12 11	45999 15 0
"	1841	4781	9 6 0	44518 3 6
Ballymurtagh	1839	4840	3 2 11	15940 6 0
"	1840	6570	2 10 9	16691 19 0
"	1841	732	2 7 6	1736 9 0
Ballygahan	1839	957	2 18 7	2851 13 6
"	1840	417	2 1 6	865 19 0
Connorree	1839	626	4 11 6	2865 16 6
"	1840	166	8 8 4	1396 15 6
"	1841	94	11 7 6	1070 8 6
Crushbane	1839	1130	5 2 2	5776 6 6
"	1840	1759	4 17 10	8606 5 6
"	1841	695	4 9 0	3084 2 0
Cosheen	1839	71	10 6 0	731 6 0
"	1841	318	9 8 6	2999 13 0
Kenmare	1841	208	16 2 0	3350 17 6
Lackamore	1839	348	10 12 5	3696 9 6
"	1840	411	8 0 0	3289 11 6
"	1841	611	9 8 6	5754 16 6
Tigrony	1839	1713	4 9 4	7652 6 0
"	1840	1876	3 12 4	6791 10 6
"	1841	644	4 1 6	2625 15 0
		62,230	£7 4 3	£406,181 4 6
WALES.				
Anglesey	1840	405	£2 16 10	£1131 15 0
Cwm	1839	55	4 17 0	266 15 0
Dolgelly	1839	255	5 12 7	1435 18 0
"	1840	117	4 17 1	568 7 6
Drws-y-coed	1839	382	7 1 8	2706 18 0
"	1840	247	6 4 5	1537 0 6
Llandidno	1839	969	6 19 2	6743 13 0
"	1840	551	6 18 3	3810 0 0
"	1841	553	5 18 6	3277 10 0
Llwydd	1839	152	5 13 10	865 6 6
"	1840	156	5 17 8	918 11 6
"	1841	254	5 14 0	1448 1 6
Llanberris	1839	288	4 6 11	1252 9 0
"	1840	141	3 4 2	452 16 6
Llwyndu	1841	398	3 13 0	1450 6 0
Llandegai	1839	30	8 19 4	269 0 0
Lasey (Isle of Man)	1839	748	2 9 7	349 14 3
"	1840	228	2 1 8	475 9 0
"	1841	380	2 18 6	1113 1 0
Melanerythan	1841	251	3 7 0	884 11 6
Penralt	1839	60	7 4 0	431 19 6
Simnea Dylluan	1839	405	7 9 6	3027 8 6
"	1840	178	7 7 1	1309 4 6
Sygun	1839	125	2 8 7	303 14 0
Ty Gwyn	1839	109	14 0 8	1529 14 6
Sundry mines	1839	224	2 13 6	600 7 0
"	1841	259	6 19 6	1807 15 6
		7920	£5 16 6	£39,987 7 3

SUMMARY OF SALES OF ORE FOR 1839-40-41.

	Tons.	Average price.	Amount.
FOREIGN MINES.			
Cobre	49901	£16 15 0	£707,359 17 6
Chili	22516	24 6 10	552,330 7 6
Cuba	5919	17 3 2	101,213 13 0
Copiapo	4193	20 16 7	85,156 14 6
Valparaiso	3949	20 16 3	81,695 15 6
Coquimba	236	13 12 9	3,219 6 0
Cobija	164	16 15 0	2,746 16 0
Florence	29	26 17 6	779 17 6
Havannah	83	12 13 6	1,052 0 0
America	140	5 14 6	800 0 0
Mexican	66	10 8 1	686 16 6
Norway	1156	14 2 5	17,489 3 0
	88,351	£17 11 6	£1,554,529 17 0
MINES OF IRELAND.			
Knockmahon	23068	£7 19 3	£185,223 2 0
Allihies	14986	8 18 10	133,876 16 0
Ballymurtagh	12142	2 8 6	33,667 14 0
Ballygahan	1374	2 9 6	3,717 12 6
Connorree	886	7 8 6	5,332 0 6
Crushbane	3584	4 13 6	11,766 14 0
Cosheen	389	6 13 3	3,730 19 0
Kenmare	208	16 2 0	3,350 17 6
Lackamore	1370	9 7 2	12,740 17 6
Tigrony	4233	4 3 4	17,069 11 6
	62,230	£7 4 3	£406,181 4 6
WALES.			
Anglesey	405	£2 16 0	£1,131 15 0
Cwm	55	4 17 0	266 15 0
Dolgelly	372	5 3 2	2,004 5 6
Drws-y-coed	629	6 11 6	4,243 18 6
Llandidno	1113	6 18 9	13,631 3 0
Llwydd	562	5 16 0	3,231 19 6
Llanberris	439	4 3 8	1,705 5 6
Llwyndu	398	3 13 0	1,450 6 0
Llandegai	30	8 19 4	269 0 0
Lasey (Isle of Man)	1356	2 12 3	1,938 4 3
Melanerythan	251	3 7 0	1,027 12 6
Penralt	60	7 4 0	431 19 6
Simnea Dylluan	583	7 8 9	4,316 13 0
Sygun	125	2 8 7	303 14 0
Ty Gwyn	109	14 0 8	1,529 14 6
Sundry mines	483	4 19 3	2,408 2 6
	7920	£5 16 6	£39,987 7 3

GENERAL SUMMARY.

Foreign	88351	£17 11 6	£1,554,529 17 0
Irish	62230	7 4 3	406,181 4 6
Welsh	7920	5 16 6	39,987 7 3
	158,501	£11 16 0	£2,000,698 0 9

MINING OF THE ROMANS IN SPAIN.

[FROM A CORRESPONDENT.]

Some few months ago an account was published in the Spanish papers (which, in due course, found its way into those of France and England), stating that a discovery had been made in the mountains of Santo Espirito, near Carthagena, of a shaft leading down into mines, supposed to have been worked by the Romans, but which had remained neglected for ages. Three persons are said to have descended to a considerable depth, where, to their astonishment, they beheld passages, the sides and roofs of which were sustained by masonry; they also heard the dashing of waters in the interior, indicating a further extent of cavities; and, although their inspection was hasty, they came to the conclusion that, in remote times, this spot had been the theatre of mining operations. The locality was afterwards more carefully explored, and, according to report, found to contain bores, with traverseable ways, partly obstructed by rubbish, yet sufficiently open to show that they led to silver mines. It was added, that permission having been obtained from Government, portions of the ore were analysed, and so favourable were the results, that a mining mania has ever since seized upon the Spaniards—in consequence of which numerous companies have been formed to dig for gold, silver, and lead.* It has, accordingly, been determined to re-open some mines which were abandoned centuries ago, as well as to undertake the working of fresh ones, and, if Government can be induced to relax in their monopoly, it is thought that more attention will also be paid to quicksilver. A new turn has thus been given to this branch of industry in Spain, and it is curious to see that, while, among the South Americans, agriculture is gradually superseding the search for diamonds and precious metals, the Spaniards are resuming their old occupations, and risking their own capital (as they would do that of others, if they can obtain it) in the bowels of the earth, at the same time that, on the surface, they possess a rich and genial soil totally disregarded. Through the rage for speculation which has arisen, the subject has, however, acquired a new interest, and it is worth while to inquire into the nature and extent of the mining works carried on by the Romans in certain parts of the peninsula—a conquest which they held for upwards of 600 years.

Whoever calls to mind the glowing descriptions given by Herodotus, Diodorus Siculus, Polybius, Strabo, and other ancient writers of the mineral wealth which distinguished Iberia, and more particularly that part it called Bœtica, would feel inclined to ask whether this source of riches has disappeared, having been exhausted by the works successively undertaken by the Phœnicians, Carthagenians, and Romans? or whether a portion still exists?—for the last three centuries neglected by the descendants of that race of men, who, in search of gold and silver, followed Cortez to Mexico, and Pizarro to Peru. Strabo, so justly esteemed for his erudition, devoted nearly the whole of the third book of his geography to a description of Spain; and, on comparing localities noticed by him, it is impossible not to be struck with the general fidelity of his details. So flattering to their country have the Spaniards always considered this composition, that, under the superintendence of the celebrated geographer, Lopez, they published a separate translation of it, accompanied by a map. After delineating the features of the country, and enumerating the various productions with which it was, in his time, gifted, speaking of Turditania, or Bœtica (at present comprising the greater part of Andalusia), Strabo says, that "no where else can gold, silver, copper, and iron be found in such large quantities, or so good in quality;" and he particularly mentions the range of mountains now designated by the name of the Sierra Morena, as containing "numerous mines," adding, that silver was found near Ilipa (Alcala del Rio) and Sisapon (Almaden). As regards gold, he asserts that it was to be had not only in mines, but also in the bottom of the streams, sometimes in lumps of half a pound, and, according to Pliny, of much greater weight. Strabo further affirms that the Turdetani were good miners, deriving great profit from their copper mines, which yielded one-fourth of pure metal; and, alluding to the abundance of one of the precious metals circulating among them, he remarks, that their wine goblets and pitchers were made of silver. Polybius makes mention of silver mines in the vicinity of Carthagena, occupying a space equal to 400 stadii (nearly twelve leagues) in circumference, in which as many as 40,000 workmen were employed, and yielding to the Romans 25,000 drachms per day.

The Phœnicians long confined their commercial operations beyond the Mediterranean to that part of the Spanish coast situated near the mouth of the Bœtis (Guadalquivir), which the sacred writers call Tharsis (Tarshish), and whence, according to the prophet Ezekiel (chap. xxvii., v. 12), the proud city of Tyre obtained "a multitude of all kinds of riches, with silver, iron, tin, and lead." Silver, in fact, was the principal attraction which drew the Phœnicians to this quarter, and Aristotle goes so far as to affirm that they there amassed such an abundance of this metal, that the anchors of their vessels and the utensils used in them were made of it. Diodorus Siculus (lib. v.) affirms that it was this harvest which rendered the Phœnicians so powerful, and enabled them to establish so many flourishing colonies—afterwards raising the Carthagenians to such a pitch of prosperity and grandeur, that they sustained long and expensive wars against the Romans, Sicilians, and Africans.

The establishment of Roman power in Spain was, beyond doubt, marked not only by an active exchange of agricultural produce with the natives, but also by mining operations on a large scale. So rapidly did this commerce grow, that, in the time of Augustus and Tiberius, the southern ports of Spain sent forth a larger number of vessels, trading to Italy, than those which sailed from Africa; and having completed their conquest, and, according to the First Book of Maccabees, chap. viii., v. 3, "reduced the mines of gold and silver under their control," the Romans became, in reference to Spain, what modern Spaniards long were as regarded South America. That, as lords of the soil, the Romans carried on extensive mining operations in Spain, is proved not only by the testimony of their own historians, but also by the existing vestiges of works, unquestionably undertaken by them, as well as by coins, inscriptions, and implements found within the cavities dug by their hands. That this portion of Europe is better adapted for enterprises of this kind than any other, will also appear evident to any one who reflects on the nature and configuration of the seven great mountain ranges by which the Iberian peninsula is traversed, and more particularly if he notices the diversity of soil and climate by which those territorial divisions are marked. Of these the most remarkable is the Bœtican, extending inland from the Ebro by a central line, drawn as far as the end of the Sierra Morena, and thus embracing that strip of coast which faces the Mediterranean and part of the Atlantic—a region totally different to those having a northern and western aspect, which appear to belong to Europe, while the other seems to have been formed through the dismemberment of Africa. In the Bœtican division the climate is warmer, in consequence of which vegetation is quick and Nature more prolific—there the palm-tree is indigenous, and there also the plants of Asia, Africa, and America find a congenial soil, as instanced in the growth of the plaintain, cotton, indigo, tobacco, and rice. In the neighbourhood of Cordova, Malaga, and Valencia, the llama and alpaca of Peru have been successfully introduced into the highlands, while below the camel thrives equally as well as on the African shore. The natives are also marked by a peculiar physiognomy of their own, bespeaking their African descent, and rendered still more striking by their manners, songs, musical instruments, and, in some places, by their dress—even their agricultural system resembles that of their opposite neighbours. Plains are seldom seen in this division, but should they occur, they are comparatively small; and if snow happens to fall upon them it instantly disappears—at the same time that the Sierra Nevara, only seven leagues from the Mediterranean, is always encircled by an icy wreath, commencing at an elevation of 9180 feet.

Without entering into comparisons, it may be safely asserted that the Bœtican division contains more and choicer minerals than any other in the peninsula, and, on this account, as well as its contiguity, was preferred by the ancients for their mining operations. Iron ore is unquestionably more abundant on the northern side, where the primitive rocks are chiefly granitic, whereas, on the southern aspect, they are usually gypseous and calcareous, although, from this variety, no positive inference can be drawn. In some parts of the Sierra Morena whole promontories wear the appearance of flint, whereas, on the Pyrenean range, more particularly that part of it which faces Arragon, many belts of rocks seem to be neither argillaceous nor calcareous. In La Mancha there are whole quarries of that finer species of schist used for whetstones, and yet the same stone in the vicinity of Alcaraz is coarse and useless. In the mountains, rising between the valleys formed by the Douro and the Tagus, the grey granite prevails, but round Merida, red is the usual colour. Some mountains are almost entirely calcareous, such as Gibraltar and Moron, while others are composed of marble; that of Filabres, near Granada, for example, is one entire mass of white marble, from top to bottom, with scarcely a single rent, whereas, in other places, it is variegated and broken.

Notwithstanding this great diversity in the component parts of the Spanish mountains, nearly all contain some mineral or other, for the formation of which it is not possible to account, so numerous are the modifications under which they appear. The existence of precious metals is placed beyond doubt, and, from their own history, it will be readily conceived that the Romans were too enterprising, and, with all their apparent frugality, too avaricious, to overlook that source of wealth which had tempted other nations, long before their victorious eagle was landed on the Bœtican shore. We have no detailed account of their various mining works, nor is there anything on record to show the aggregate result of their labours in this department of industry; but, besides those already quoted, there are sufficient authorities to establish the fact that the Romans were extensive miners in Spain, and that, comparatively speaking, they there collected a large mass of the precious metals. Strabo remarks, that the Turdetani, inhabiting the banks of the Bœtis, had adopted the manners of the Romans, so far as to forget their own language—the greater part having received colonies among them, and acquired the rights of Roman citizens. Andalusia thus became the favourite abode of the conquerors, and it was, consequently, there that they chiefly dug for metals. Diodorus Siculus, alluding to the mines opened in that province, and more especially those on the Sierra Morena, says that, in his time, they had already been dug many stadii below the surface; and, struck with astonishment at the magnitude of these undertakings, Pliny observes, that they appeared like the works of a daring race of giants. Instead of opening shafts and forming galleries, it is known that, in some instances, when in search of gold, the Romans cut down a whole hill, and then brought a stream of water across, in order to wash down the loose particles, which were carried to a channel below, and the heaviest there stopped by mounds purposely constructed.

That the Romans had a mint at Seville, among other authorities, appears from an inscription, still preserved, and dedicated by the workmen of that establishment to Julius Flavius Policrisus, the administrator of the mines on the Sierra Morena. It is in these words:—*I. Flavio . Aug. Lib. Policrisso. Proc. Montes . Mariani . Prestantissimo . Confectores . Æris.* In various passages Livy mentions the sums of money, coined and uncoined, which the ex-governors carried back with them to Rome. Cato, he remarks, delivered up to the Treasury 25,000 lbs. of silver in bars, 120,000 lbs. in coin, and 400 lbs. of gold; Helvius 37,000 lbs. of coined silver, and 4000 lbs. in bars; Minusius 80,000 lbs. of silver in bars, and 300,000 lbs. coined; while Fulvius adorned his triumphal entry with 124 crowns of gold, 31 lbs. of the same metal in bars, and 170,000 lbs. in country coins.

In modern times the amounts here named may not appear large, but it ought to be borne in mind, that these distant Governments did not last longer than a year. No doubt this wealth was partly wrung from the inhabitants, in the way of tribute; nevertheless, besides establishing the existence of precious metals, these testimonials prove that the Roman Government derived a considerable revenue from their Spanish conquest, besides affording to their functionaries the opportunity of enriching themselves. The principal part of the sums alluded to, in all probability, arose out of the produce of the mines, chiefly worked by slaves and criminals; and the importance attached to this source of revenue may be deduced from the circumstance of a procurator, or curator, being appointed to each mining district, who, in the case above-mentioned, seems also to have had charge of the Seville Mint.

The changes which have taken place in the appearance of the country, followed by the loss of public records, preclude the possibility of pointing out all the spots where the Romans sought mineral deposits in the bowels of the earth, by invading, as it were, the dominions of that god of darkness, whom, on earth, they propitiated—nor can those which yielded most profit any longer be traced. Old mines may, however, easily be distinguished from those of a modern bore—the hardihood of the designs, the sublimity of the undertakings, and the magnitude of the works, often serving as a criterion. Those from which copper has been dug are on the largest scale. The most remarkable of this class, attributed to the Romans, are the mines of Rio Tinto, a modern village, fourteen leagues from Seville, and situated on the banks of the river from which its name is derived. This village is encircled by hills, one of which, standing to the west and south, has been half cut down and levelled into a platform, as it is conjectured, by the Romans, for the performance of their games and athletic exercises. Towards the north rises a loftier hill, crowned with an old castle, having a cistern in the centre, and surrounded by the mouldering remains of walls; this spot is called Solomon's Mount and Castle, whose people (local tradition says) were in the habit of coming hither in search of metals. From the top of this mount opens a perpendicular shaft, of an enormous size, down which, if a stone is cast the fall is not heard; and on the sides horizontal bores are cut in various directions, indicating that gigantic works were once carried on here, for the purpose of extracting copper. On the northern side of the hill, about half way down, is the mouth of an old mine, situated near a cavern, and constantly overflowed with water, strongly impregnated with vitriol, and having a deep yellow colour, like that of a topaz. This is, in fact, the source of the Rio Tinto (Red River), which, after being joined by several other streams, falls into the sea at Huelva; but, owing to the unceasing rush of water, and the impossibility of discovering the old drainages, which must have been choked up for ages, the direction and extent of this old mine have not been ascertained.

Solomon's Mount is an object of great curiosity; the interior of the northern side has been excavated to a great extent, and through a long succession of cavities thus formed flows the river, the waters of which are so poisonous that the plants wither over which they pass, and the roots of trees washed by them acquire a deep tinge. About three-quarters of a mile from the spot where the stream issues are the foundations of an old wall, encircling a piece of ground nearly a league in circumference, and built with hewn stones, of a ferruginous nature—evidently brought from a neighbouring quarry, where similar blocks, half cut, may be seen. Along the sides of the hill also lie scattered the fragments of other cut stones, such as portions of pedestals, cornices, and some seemingly intended for an aqueduct. Although the ancients have left us no description of this spot, from the magnitude of the works it is evident that it must have been a place of consequence, probably a mining station, where the Romans had a garrison for the safe keeping of the slaves and convicts employed in the labour of digging. If we had no other testimonials, the discoveries made within the last century would establish the fact, that the Romans were the authors of most of the mining enterprises in Spain—the grandeur of which we admire; at the same time it is possible, that, in some places, they only continued the works begun by the Phœnicians and Carthagenians who preceded them.

Till the year 1727 the district of Rio Tinto remained entirely neglected—literally depopulated—but Philip V., in that year, having made a grant of it to a Swede, named Liebert Wolters, various attempts were made to open the old drainages and clear the principal shaft. Emptying a drain on the south side of the hill, cut in the solid rock to the height of about six feet, and extending in the bore to upwards of 400 feet more, the workmen discovered a copper-plate, which was partly broken in their endeavours to dig it out, with the following inscription upon it:—*Imp. Nerva Cæsari . Aug. Pontifi . Maximo . Tr. Opert. PP. Cos. III. G. IIII. Pudens . Aug. Lib. Procurator . Ib. Posuit.* This plate is about thirty inches long and twenty wide, and, notwithstanding its age and its having been buried in the ground for many centuries, is so perfectly legible, that no mistake can occur in decyphering the letters engraved upon it. Nerva, to whom it is addressed, assumed the imperial purple on the death of Domitian, A.D. 96, and rendered himself popular by his mildness, integrity, and disinterestedness. Pudens, the author of the dedication, and, in all probability, named by Nerva administrator of the mines in question, seems to have been desirous of paying to his patron and benefactor the greatest compliment in his power; and, in order to render the tribute of his respect more appropriate, instead of a marble slab, had his dedication engraved on a plate made of the metal extracted from the mines confided to his care. Gold and silver coins have also been picked up within these works, some of them Phœnician and others Carthaginian, but principally Roman, bearing the impress of the Republic as well as that of the Emperors. Those of Augustus and Nero generally are in a state of excellent preservation. Lamps, pickaxes, and other implements, have equally been dug out.

Works of old mines may still be seen on the Sierras of Aracena, a small town to the north-west of Seville, where there is also a jasper quarry, and near it stands the Peña, or Rock of Arias Montano, called so from its having been the abode of that eminent divine after he returned from the Council of Trent. Similar vestiges are found in the neighbouring mountains of Aroche (the *Arucі Vetus* of the ancients), where various Roman inscriptions have been discovered. In the district of Calanas are the remains of old bores, and on the top of a hill, situated to the east of the town, may be seen a line of fortifications, with a cistern on the highest point, to which no date is affixed. These works are, however, mostly attributed to the Romans, who, notwithstanding the scanty details on this subject transmitted to us, must have been extensive miners in this part of the country. Addicted, as they were, to luxury, the acquisition of gold and silver may have been among the inducements which caused them to display so much of their power on the banks of the Bœtis, where they formed large establishments, and protected them with an adequate force, and, besides, built the memorable city of Italica, the ruins of which have only been explored in our own days. Theophrastus, who died 288 years before the birth of Christ, mentions the cinnabar of Spain, and Vitruvius, the contemporary of Augustus, also alludes to it. The Romans unquestionably worked the quicksilver mines of Almaden, as Pliny distinctly states that, at a certain period, they were kept closed, and the quantity only of metal taken out which was required for the consumption of Rome. In vol. vi. of his *History of the Crown Revenues* (a work evidently founded on official data), Francisco Gallardo gives the following returns of mines existing in Spain towards the middle of the last century—viz., gold 44, silver 178, copper 107, iron 71, lead 93, quicksilver 12, antimony 15, cobalt 2, arsenic 1, alum 11, vitriol 7, sulphur 9, coal 52, &c. As all these mines are registered in one of the state offices, and a particular description appended to each entry, it is presumable that most of them were tried. Some are, perhaps, exhausted, while others may have been found not to deserve the outlay of capital; but still there is sufficient evidence to show the existence of valuable metals in Spain—possibly to a larger amount than is generally imagined. As regards the precious metals, it is to be borne in mind, that soon after the discovery of South America the digging for them was discontinued, although afterwards partially resumed.

In conformity with the Spanish laws, all metals found underground, whether situated in public or private lands, belong to the Crown, but, as a source of revenue derivable from the enterprise of individuals, any person may claim the possession of a mine deemed worth his notice, provided he engages to pay the Government a fixed portion of the proceeds, and binds himself to continue the works. To obtain this grant, the applicant is required to give notice of his intention, in writing, which is called a *denuncia*, when he hands in a paper describing the locality, limits, and properties of the mine. Without this formality the possession is insecure—the holder being liable to ejectment, and the grant is forfeited in case he discontinues the works for a year. From the registers thus formed, the returns above quoted were, doubtless, taken; but it is not to be supposed that all mineral deposits in Spain, which have undergone the formality of being registered, were worth working.

* It is reported that, in Cordova alone, as many as twenty companies have been formed, and that three organised in Seville, Granada, Carthagena, and other places, contemplate to the Mediterranean, amount to 240 more.

ORIGINAL CORRESPONDENCE.

ON THE CHANGES PRODUCED BY ELECTRIC ACTION ON MINERALS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—If the object of Mr. R. W. Fox's letter, in your last, was to show that M. Becquerel had used the nitrate, and not the sulphate, of copper (with another salt), in the production of the sulphuret of that metal, he has attained it, and states no more than I had previously done in your paper of the 16th instant, in the note correcting my inadvertent error. As, however, Mr. R. W. Fox implies that I intentionally delayed that correction, permit me to say, I replied to every letter he addressed me on the subject by return of post, whilst in no one instance was he himself equally prompt. In my reply to his first letter, I offered to correct the trifling inaccuracy into which I had fallen, in any manner he might himself suggest, as I felt, and still feel, that misrepresentations injure their authors only. If, however, it is Mr. R. W. Fox's intention to claim for himself any originality, or the discovery of any new principle in his experiment on the action between the sulphate of copper and copper pyrites when they form portions of a galvanic circuit, under conditions* which I need not repeat, I deny the justice of his pretensions to one or the other. I maintain that the principle and essential details of that experiment are identical with those of M. Becquerel, long before published, and that the only modification—the substitution of certain ingredients for others—required but little ingenuity, and in no respect alters the principle previously discovered. I beg to repeat † a comparison of the two statements, in the words of the respective authors—

M. Becquerel, published in 1834-35:—	Mr. R. W. Fox, published 1836-37:—
"We take a tube, bent into the form of the letter U, having its transverse part filled with clay moistened with water. * * * A saturated solution of nitrate of silver is poured into one branch of the bent tube, and into the other a solution of the hypo-sulphite of potash. * * * One end of a wire, or plate of pure silver, is then plunged into each of them."	"An earthenware trough was divided by a partition of moistened clay into two cells, into one of which was put a piece of the yellow sulphuret of copper, the cell being filled with a solution of the sulphate of copper; and into the other a piece of zinc, and the cell filled with water, either pure or slightly acidulated by sulphuric acid. The zinc was then connected with the copper ore by means of a copper wire passing over the wall of clay."

I think no other proof of their absolute identity in principle will be required, the resemblance is perfect. That it should be so is not surprising, for R. W. Fox had, long previously to his publication, perused M. Becquerel's description of his principle and mode of operating. Mr. R. W. Fox says I have "always asserted that the sulphuret could not be produced when the nitrate of copper was employed." My statement (*Annals of Electricity*, vol. i. p. 228) was, "that when the elements of the sulphurets are not present in the solution no appearance of them takes place on the copper pyrites." Does Mr. R. W. Fox disprove this, may I ask? He does nothing of the kind, but quotes M. Becquerel's experiment, which quite confirms my statement, for by the reaction of the nitrate of copper and of the hypo-sulphite of potash on each other, and on the metallic plate connecting them, he obtains the sulphuret; the sulphur for its formation being supplied by the hypo-sulphite alone. The experiment of mine, to which he refers, was with the nitrate of copper only in solution, and there, as might have been expected, I obtained no sulphuret.

I have now shown, 1st, that I had sufficiently corrected my own statement in your pages before Mr. R. W. Fox's letter to you was written—that I offered him the means of making his own correction—and that any delay in the matter is his, not mine; 2d, that his experiment is but a slight and unimportant modification of M. Becquerel's, which in no wise affects the principle; and, 3d, that the production of the sulphuret of copper from the nitrate took place only when sulphur was supplied by the other ingredients in solution. I am glad that Mr. R. W. Fox refers to our previous correspondence, as a review of the whole discussion will clearly show which of us evaded a full and complete inquiry.

I remain, Sir, your's, &c.,

W. J. Hanwood.

4, *Clarence-street, Penzance, Oct. 26.*

* *Mining Review*, No. 10 (December, 1837), p. 337. † Ibid.

ON THE CHEMICAL CONSTITUTION OF COAL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In reading your useful paper of the 9th inst., I perceived a strange sentiment, held by a great man, and which I could not break. The paper of Charles Hood, F.R.A.S., "On the Chemical Constitution of Coal," contains the following statement:—"That it is a general opinion, that furnaces in which coke is used for fuel require to be supplied with a larger quantity of air than is necessary for the combustion of coal; and it is usual, therefore, in those cases, to make the openings between the bars wider, in order that more air may be admitted. The rule is a practical one, and therefore scarcely likely to be erroneous; but the reasoning on which it is founded is clearly incorrect." Now, the reasoning founded upon this practice, and which by our author is said to be incorrect, is, that carbon and hydrogen take more air than carbon alone. I profess not to be a chemist, and yet I like to peruse subjects that are chemically illustrated, but especially this, as with its establishment the use of anthracite may be profited. Coke and anthracite agreeing in this, that each is composed of a large proportion of carbon, to the almost entire exclusion of hydrogen; and as hydrogen is the only difference between carbon and carburetted hydrogen in the case before us, it would seem needful only to go into the nature of each at once. As, however, our author specifies carburetted hydrogen, or carbon and hydrogen united, as requiring more air than carbon, I shall go into the chemical theory with these two first, and then come to the two as received by our author. The chemical symbol of this gas, as used by Liebig, is H, C.; its eq. is 100, and its equivalent, or atomic weight, is 0·75. Here, then, we have two atoms of hydrogen, each equal to 1, if hydrogen be taken as unity, which is gas-

rally done, and 1 atom of carbon = 6·12, which will thus stand 1 + 1 + 6·12 = 8·12—the atomic weight of carburetted hydrogen, or coal gas. In the combustion of these three atoms it will be necessary to give two atoms of oxygen to the atom of carbon before it can be perfectly saturated, so as to form carbonic acid, while the two atoms of hydrogen only require two atoms of oxygen—*i. e.*, each atom—one of oxygen to form steam or watery vapour. This shows us at once that every atom of coal gas, or carburetted hydrogen, gives out one atom of carbon, requiring for its equivalent two atoms of oxygen, and two atoms of hydrogen take other two atoms only of the common supporter of combustion. In all, then, four atoms of oxygen for these three atoms are sufficient, whilst three atoms of carbon will demand six as their saturating equivalent. The above seems quite consonant to the best chemical theories now received.

That we have not mistaken our author would seem plain, from the comparison he establishes as the base on which his theory rests. He affirms that "the perfect combustion of carbon, in whatever state it exists, is produced by forming it into carbonic acid gas. This requires about two and a half times its weight of oxygen; but hydrogen requires for its combustion eight times its weight of oxygen, and, therefore, more oxygen must enter the furnace to cause the combustion of a fuel composed of carbon and hydrogen than one consisting of carbon only." In the above comparison, then, the two gases, carbon and hydrogen, would seem to require the more oxygen as they are disproportioned in specific gravity, or at least as there is a disproportion between them and hydrogen. But let us examine this subject fairly, ere our author's opinion be allowed. The specific gravity of each, taking 100 cubic inches as the volume, or, if you please, the quantity, and hydrogen as unity, hydrogen will be 1, carbon 6, and oxygen 16, or its atomic weight is 8. We have, then, according to the theory of combustion, one atom of oxygen = 8, uniting to one of hydrogen = 1, making water or steam = 9. But what is this 9, is it grains, or lbs., or what? Say it be 9 grains, then, how much oxygen is there found in it? Well we have only one atom of each, or 100 cubic inches of oxygen united to as many of hydrogen. Each of the atoms, then, found in carburetted hydrogen, will require 100, making in all 200 cubic inches of oxygen, as the saturating equivalent for the hydrogen found in that gas. Carbon, on the contrary, will need rather more than two and a half times its weight, or, in other words, will require two atoms of oxygen, which will be equal to 200 cubic inches for each atom it emits. How, then, we ask, can hydrogenous coal need more oxygen than carbonaceous coal, or coke? Thus, then, the practice of widening the bars for coke has its foundation in correct chemical theory.

The above reasoning will at once go to prove the necessity of a greater power of blast, whether heated or cold, to smelt iron with anthracite. The cold-blast, all are fully aware, has not as yet succeeded to expectation in making iron with anthracite. Such is the quantity of air demanded, on account of the quantity of carbon found in the stone coal, that there is, and must be, a chilling influence felt, and an almost entire deprivation of caloric found about the tuyeres, and the work of deoxidation and carbonisation will be entirely impeded. We are not, however, to suppose that there will be no caloric found in the furnace, there will be more than if hydrogenous coal were used, only it will be found in the upper region of the furnace. If the chemical maxim stand, that combustibles will give out heat or caloric, according to the quantity of oxygen they absorb, then we must give the preference to anthracite, for no coal contains more carbon than it. We readily allow that the affinity of hydrogen for oxygen is greater than carbon has for oxygen, and that, perhaps, is the chief reason that it is preferred, being in consequence of this relation by affinity "quicker," as it is technically called, for the blacksmith's forge and for steam purposes. Anthracite can be employed to either purpose, as well as the other, but prejudice gives the preference (together with a little more labour attending the one than the other) to the hydrogenous. We are glad to find our author correct in many of his statements, and in none more so than in the one he makes concerning the heat-giving power of anthracite, which he declares "surpasses all other kinds of coal in this particular"—a proof of this, that our reasoning above is not 100 miles from the truth. Anthracite, which is more carbonaceous than any other coal, seems to have been neglected for so long a time, bids fair now, we hope, to be valued according to its just merits. It is now being used for every purpose to which coal as a combustible has been employed, and that with equal or superior effect. If 10 lbs. of bituminous coal be allowed for every hour per horse power, on land boilers, according to the statement of Dr. Lardner, then the stone coal will do equal, or more than this. The Cwm Amman Coal Company have now an engine working daily, and under disadvantageous circumstances, as a winding engine, and only using 5 lbs. of stone coal per horse power. This stone coal requires a larger proportion of atmospheric air, and as the carbon is so consolidated in all the more highly mineralised veins, it will require more time for the effective incorporation of the gases, or some other application, as a substitute, for the necessary time required. That requisite is found in the hot-blast. I hope, Sir, that by digressing a little from the point at which I commenced I have not trespassed on your liberality, nor on the patience of your readers.

I remain, Sir, your's, &c.,

Cwm Amman, Oct. 22. ——— U. THOMPSON.

THE TIN TRADE—THE MINERS' COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Will you excuse my asking for some further explanation than you have already given, upon your remarks in the Journal of the 16th inst., in reference to the sale of tin by the Miners' Company? What I more particularly refer to is the following extract:—"If we cannot congratulate the mercantile body and the consumers on the result, it is highly satisfactory to us to find that, as far as the miner and the interests of the company are concerned, the issue has been one of a successful character. The opinion was boldly advanced, that the consequences of this large sale, involving an amount of from 70,000*l.* to 80,000*l.*, would be a heavy fall in the price of tin, whereas the result is, the holders being firm, and even higher prices demanded." If I do not mistake, the benefits held out by the parties who first promoted the establishment of this "Miners' Smelting Company," were—that by smelting the whole of the ores produced from the mines, and having the supply of the market exclusively, without competition from other smelters, the price might be kept up, and, as a matter of course, the whole of the tin be consumed. The objection which was made to this view of the question, and which was principally insisted upon as being a point that would at all times be settled by the approximation that supply and demand might bear to each other, was treated as a mere fallacy, and was met by the positive assertion, that the low price of tin was attributable to competition only.

Now, I must confess, that the only conclusion I can come to, as arising out of the result of the sale referred to, is, that this accumulation of tin, for such it must be, has taken place at a time when the consumers have evidently been fully supplied from other sources; and nothing can be more fully established than this fact was at the time of the sale, from the circumstance of there being no purchasers present, from which no other inference can be drawn, than that tin was not in demand. If to this we add, that, during the progress of this smelting concern, the price of tin has been receding—the evidence of its being a failure rather than one of a "successful character," would certainly appear to be strengthened; but, no doubt, you are prepared to prove the correctness of your remarks.

I should think that the reduction which has taken place in the price of tin since the establishment of the "Miners' Smelting Company," cannot have arisen from competition, as this company has had five-sevenths of the quantity produced in their hands; and it can never be supposed that the other two-sevenths could rule the market, if the consumption were equal to the quantity produced.

You further remark—"We are given to understand that four-fifths of the tin, or 800 tons, have been taken by the large houses (for the public sale was insignificant in the extreme), and that prices are maintained instead of being lowered." Are we to understand by this that the great houses, who could not purchase at the sale, have since made their purchases at prices as high, or even higher, than the tin was bought in at? If this be not the case, it must be a contradiction to your former remark, that "the holders were stiff, and higher prices demanded;" and, yet, one can hardly understand how they should purchase by private contract after the sale was over, at which such a decided indisposition was manifested by the trade to purchase, unless more advantageous terms were offered to them by the company; but these are reflections which are given for the purpose of eliciting explanations, and which I shall be glad to see explained in your Journal. Have you ever seen a comparative statement of the prices received for ores of the same produce by mines which have not joined the smelting company, and by other mines which have been partners in this smelting concern? It appears to me that such a statement would throw considerable light upon the subject, and would prove, without doubt, whether the miners have really profited by this new establishment. It would be but fair that the company should receive all due credit for any benefit it may have produced to the miner; and if, by such a statement, it can be made to appear plainly and clearly that the mines for which they have smelted have been advantaged by it, other mines would, probably, soon join the association.

There is a question connected with the present formation of this smelting company which requires some explanation, as it is now become a part of the new copper company, lately formed under the Charter of Incorporation, with the style and title of "The Governor and Company of Copper Miners in England." This company is composed of 10,000 shares of 100*l.* each, thus creating a capital of one million sterling. There is at the close of the advertisement, which has for some time appeared in the Journal, the following paragraph:—"Finally, this company holds out to its shareholders what very few trading companies in the kingdom have the power to do—viz., complete freedom from liability beyond the amount of their respective shares—such being the immunity granted by the Royal Charter of 1691, under which 'The Governor and Company of Copper Miners in England' exercise their functions, and from which they derive their constitution." This, I presume, is thus set forth, in order to induce persons of property to embark in the concern, by holding out a security against any debts which the company may contract beyond the 100*l.* per share. Now, this security must be of importance to the subscribers or partners, or it would not be worth noticing in the way it has been introduced in the advertisement. If it be really a matter of importance to the individual partners, it appears to me to be of equal importance for the consideration of the creditors of the company; for, if the partners are thus freed from liability, to whom are the creditors to look for payment?

The company is divided into 10,000 shares. In the first place, no person knows, or, perhaps, I should more properly say, the public do not know, whether the whole of those shares be taken up; it would appear that they are not, because the advertisement is an invitation to parties to become partners in the company, but, admitting that they are all disposed of, for anything that the creditors of the company know, they may be held by individuals possessing no property, or they may hereafter be purchased by speculating gamblers, and the calls may not be paid upon them. I may be referred to the respectability of the governor, the deputy-governor, the court of assistants, &c., as a guarantee against anything going wrong, but this is no guarantee at all, unless those individuals will become responsible to the miners for the debts of the company; they, according to the advertisement, are only liable to the extent of 100*l.* per share upon the shares held by them respectively, and that may form but a small part of the capital of the company. I may be further informed, that the property of the company will be ample security; but, even admitting this to be true, it is not the situation that the miner will be satisfied to be placed in; he will require a guarantee that his ores shall be paid for when the time of payment arrives, and not that he shall be compelled to wait until a great extent of smelting-houses, tin-plate works, collieries, &c., can be sold, and converted into cash.

The company is now extensively embarked in smelting, both on private contract and from purchases of ores made by them in the public market. Those who have been satisfied to dispose of their ores by private contract, have used their own discretion upon the subject, and have, no doubt, decided according to their own convictions. Those whose ores are exposed to public competition have a right to demand the same privilege, and that they may be placed in a situation to be able to decide satisfactorily, to ask, if the individual partners in the company are to be indemnified by the charter against any claim beyond the amount of their respective shares, to whom they are to look for security against loss?

I am, Sir, your obedient servant,

London, Oct. 27. A SELLER OF ORES.

[Some remarks on the letter of our correspondent will be found in another column.]

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I venture to send you an attempt at solution of Mr. George Knox's problem, which appeared in the Journal last week, and as this is my first lesson in colliery surveying, I plead for excuse, if I should not have well comprehended the question.

The angle of declination of the inclined plane from K shaft has not been given; I have, therefore, assumed the same dip as the other incline (22 deg.), which was probably intended. The lengths have been recorded in "links," but as it is quite unusual, in this county, to make underground surveys with a Gunter's chain, I have converted them into feet and inches, reckoning a link 7·92 inches, or at the rate of 100 links to 11 fathoms, according with the division of that chain. In whatever I may have been wrong, I request Mr. Knox to set right, and hope that Staffordshire and Cornwall will persevere in the laudable engagement of mutually enlightening each other in this most important subject.

COMPUTATION OF CASE IV.

LINES AND ANGLES.	Length. Ft. in.	Bearing. Deg.	TRIGONOMETRICAL RESULTS. East. Ft. in.	West. Ft. in.	North. Ft. in.	South. Ft. in.
A to K	691 0	45 N of W	.....	488 3	488 3	....
Horizontal of incline from A shaft	1409 8	19 S of W	.....	1336 8	.....	479 2
Drafts through the level						
No. 1	92 5	29 30 W of N	.....	45 7	80 5	....
2	163 0	31 15 W of N	.....	84 7	139 4	....
3	89 9	40 6 W of N	.....	57 9	68 7	....
4	68 9	75 7 W of N	.....	55 5	75 3	....
5	109 7½	27 0 W of N	.....	47 1	92 4	....
Inclined plane from K shaft reduced and reversed	324 4	40 0 N of E	218 5	.....	208 6	....
			348 5	2146 11	1154 5	479 2
			....	348 5	479 2	
				Westing 1798 6	675 3 Northing.	

Hypothenuse ..... 2017 feet

Bearing ..... 19 deg. 30 min. north of west

SUM OF VERTICAL DEPTHS.

	Ft.	in.
From shaft K to shaft A	537	0
Add depth of inclined plane from A shaft	281	4
	818	4
Deduct depth of inclined plane from K shaft	181	0
Vertical depth of A below K	819	4

We have now a horizontal base of 2017 feet, and perpendicular 819 feet, to find the hypothenuse or inclined plane, in order (as reads the question) "to join by a straight line the end of the incline from K with the extreme point of the working in A," which will be found as follows:—

Length of inclined plane	2177 feet, or 362⅓ fathoms
Dip, or "angle with the horizon"	22 deg. 7 min.
Bearing	19 deg. 30 min. N. of W.

I remain, Sir, your obedient servant,

Callington, Oct. 26. ——— JOHN BENDE.

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I think your correspondent G. Knox has left us too much to conjecture in his question dated October 6. Perhaps he will favour us with answers to the following queries:—

1. By pit K being N.W. from pit A, is N. 45 deg. W. meant?
2. Is the direction of the dip of the coal S. 71 W. in both pits?
3. Are all the distances horizontal, or measured on the incline?
4. Are both pits on the same level where they strike the same coal?

Newcastle-on-Tyne, Oct. 26. I am, Sir, your's, &c., M. S.

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Being a Budgite, I was rather surprised to see a question in your very valuable Journal of Saturday last from Mr. Knox, on the subject of mine surveying, wherein he (Mr. K.) speaks of 31 deg. 15 min., 40 deg. 6 min., 25 deg. 7 min., &c., when our great western bantlingy and author has not made any provision for anything less than a quarter of a degree in all the tables of that very valuable work called the *Practical Miner's Guide*; however, I have taken the hint given me by a late very valuable friend, that is, to guess at that which I cannot get at, from which I gather the following as an answer to the aforesaid question, on the supposition that the incline plane at the K workings is on an angle of 22 deg. with the horizon, which is not stated; that the mark in the K working is 1394·4 links east, and 469·2 links north of the mark at the A works, which makes the bearing from K to A south 71 deg. 44 min. west; the dip of the strata from the mark at K to the mark at A is 550 links; the A seam is deeper 540·9 links perpendicular than the K seam, which makes the mark at A 1090·9 links deeper than at K, consequently a straight line from the mark at K to that at A would be 1831·7 links in length, bearing south 71 deg. 44 min. west, at an angle with the horizon of 36 deg. 33 min., and it would intersect at an angle of 14 deg. 33 min.

I remain, Sir, your's, &c.,

Dickleigh, near Plymouth, Oct. 26. A MINER.

SEDIMENT AND INCRUSTATION IN STEAM-BOILERS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Your correspondent who inquires from Tavistock Hotel will find the best remedy for the incrustation in his steam-boilers to be a machine pretty commonly used in Manchester, and in some Liverpool steam-boats. Mr. Armstrong, boiler-maker, Manchester, is the manufacturer of the machine, I believe. I cannot say the cost of the machine and fitting, but I think it is but a trifle. In the absence of other means, your correspondent would find the tallow-scrapings for the shafts and other parts of his machinery better than potatoes in the water he uses. We, here, have our supply cistern under some heavy gearing, the grease and oil drippings from which fall into the water, which, with scrapings occasionally thrown in, completely prevent incrustation, and keep the sedimentary matters from rapid deposition, but we have little other than argillaceous matters in our water. I prefer the grease being put into the supply cistern rather than directly into the boiler—perhaps your correspondent would find it also advantageous. I remain, Sir, your's, &c.,

Penyorphwysfa Mine, Anglesey, Oct. 12. B. DONDAVAND.

CONSUMPTION OF SMOKE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—It appears from Mr. Williams's letter, in your last, that he now virtually gives up the point of economy of fuel, for his patent air-furnace, as being only a "secondary consideration;" or, at least, as we are bound to believe Mr. Thompson's testimony, to using "less coal," that the saving does not amount to any definite quantity that can be spoken of. Now, this is precisely the conclusion I had arrived at, from my own inquiries on the spot, and, since it is now so candidly acquiesced in by the patentee himself, there is clearly an end of the matter. Heartily wishing Mr. Williams better success in his next speculation in "economy of fuel" (*vide* his advertisement), I subscribe myself no longer an "unsatisfied," but now A PERFECTLY SATISFIED INQUIRER.

Manchester, Oct. 26.

NORTHERN COAL MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Your valuable Journal having been of infinite service in exposing some of the nefarious transactions of the two coal companies, and being interested in the said companies, I would feel obliged if you would insert the following queries in your Journal, as some of those points are involved in obscurity at present, and they might, probably, catch the eye of some person able to give information respecting them. From some facts which have come to light, it appears that Mr. Thomas Forster is more mysteriously connected and mixed up in those affairs than his renowned brother, John A. Forster. As a great general meeting is to take place at Norwich early next month, to adjust and finally arrange their affairs, it is necessary that some of these things should be brought to light.

I am, Sir, your obedient servant,

Darlington, Oct. 26. A SUFFERER BY THE COAL COMPANIES.

Out of the immense sums of money paid by the Northern Coal Mining Company for coal mines and royalties, how many workable collieries have they, and whether are those collieries working to a profit or to a heavy dead loss?

Is there any probability that any single colliery they have will ever pay interest for the immense sums of money paid for such colliery?

Is Thomas Forster still consulting viewer for the company; and, if not, have they a competent and an experienced professional man to fill that responsible situation?

At the time of Thomas Forster turning over from the seller to the buyer, collieries which were ready "won" and sold to the company, was he not acting in a professional manner for both buyer and seller? and was he not more deeply interested in the vendor's affairs than in the affairs of the company, when he held the responsible situation of consulting viewer; and was the person one whom the company depended for all their professional instruction? and at that time was he acting a fair honest part towards the said company?

THEORY OF THE STEAM ENGINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—As, in a letter printed in your Journal of the 18th ult., Mr. Parkes accuses me of having misrepresented his sentiments in refuting his strictures against me, may I beg you to insert, in your next publication, the inclosed paper, as an answer to his allegations.

I remain, Sir, your's, &c.,

London, Oct. 12. ——— G. DE PAMBOUR.

SUPPLEMENTARY PAPER: ON THE MOMENTUM PROPOSED BY MR. J. PARKES, AS A MEASURE OF THE MECHANICAL EFFECT OF LOCOMOTIVE ENGINES.

BY THE COUNT DE PAMBOUR.

In a former paper (inserted in several scientific journals of August and September last) we have proved that all the strictures presented by Mr. Josiah Parkes in his paper "On Steam-boilers and Steam-engines, inserted in the *Transactions of the Institution of Civil Engineers*, vol. iii., against some of the experiments of our *Treatise on Locomotive Engines*, are entirely founded upon errors of his own; and, besides that, his momentum, or intended "standard," of the mechanical effect of locomotive engines, which he proposes to substitute in place of every other research on the same subject, leads him to conclusions and results altogether erroneous in every way. However, as, in a letter inserted by Mr. Parkes in several periodicals (*Literary Gazette*, Sept. 18th, 1841; *Mining Journal*, Sept. 18th, and *Civil Engineer and Architect's Journal*, Oct. 1st), he complains that we have misrepresented his sentiments, we shall now add a few more observations, to show that we have not misrepresented the sentiments of Mr. Parkes; and, besides that, it is not upon sentiments, but upon facts, that we can establish clearly that the whole of the calculations and tables of Mr. Parkes are erroneous; and as every one of his conclusions and strictures are founded upon the numbers obtained in his tables, that every one of his conclusions and strictures are equally false and erroneous, for that, we shall resume in the same order, all the articles of our former paper, quoting more particularly the facts and the expressions of Mr. Parkes, upon which are grounded our arguments and refutation.

1. We have said that, to calculate the mean pressure of the steam in the cylinder of each of the engines submitted by us to experiment, Mr. Parkes uses the average velocity of the whole trip between Liverpool and Manchester. This cannot be denied, and is made quite evident by looking at his Table VIII., column 16, Table XIII., column 5, Table XVI., column 2, in which the velocities are headed "Mean Velocity of the Engine per hour," and are, in fact, the average velocities of our experiments, given in page 175 of the *Treatise on Locomotive Engines*, first edition, and page 2[illegible], second edition, with the exception only of the cases in which Mr. Parkes has increased the velocity, from a mistaken correction of his own, of which we shall speak in a moment. Now, in recurring to our former paper, same article, it will be seen that such mode of calculating the pressure in the cylinder, from the average or mean velocity of the whole trip, is altogether faulty, because it gives only the pressure which would have taken place if the whole trip had been performed at a uniform velocity; but the velocity varied considerably in the different portions of the trip, according to the more or less inclination of the part of road traversed by the engine, as may be seen in our detailed table of those experiments (pages [illegible] to [illegible], first edition, or pages [illegible] to [illegible], second edition, of the *Treatise on Locomotive Engines*); and, in taking account, as ought to be done, of the time during which each partial velocity has been continued, we have shown, in our former paper, that the real mean pressure of the steam in the cylinder is very different from the pressure given in Mr. Parkes's calculation. We can, therefore, safely conclude, that the pressures and corresponding volumes of the steam in the cylinder, presented by Mr. Parkes as the result of his research, are altogether faulty.

2. This is a first error which Mr. Parkes introduces as a fundamental basis in all his calculations, and which has nothing to do with his sentiments. But he does not stop there. We have said that, moreover, he here sees about all the average velocities nearly one fifth; and to be assured of this, it again suffices to compare, in his paper, Table VIII., col. [illegible], or Table XIII., col. 5, or Table XVI., col. 2, with our own table of experiments (page 175 of first edition, or page [illegible] of second edition, of the *Treatise on Locomotive Engines*). It will be found that the velocity of *Fulton*, in Experiment VI. (Table VIII. of Mr. Parkes), is recorded by him as 27·9 to [illegible] miles per hour; that of *Vesta*, in Experiment V., from 27·21 to 31·98 miles per hour; that of *Atlas*, in Experiment III., from [illegible] to [illegible] miles per hour; that of *Leeds*, in Experiment VIII., from [illegible] to [illegible] miles per hour; that of *Fury*, in Experiment IX., from 29·63 to 21·70 miles per hour; and that of *Fury*, in Experiment X., from [illegible] to [illegible] miles per hour. So that, out of ten experiments extracted from our work, six have been made entirely false by this alleged correction to the observed velocities; and this is worse than if the whole of them had been falsified in the same way, because it would have left at least the same proportion between the results. Mr. Parkes makes the same addition to the observed velocities, and, therefore, introduces the same error, in calculating the experiments of Mr. Edward Woods with the *Hecla* since we find (page [illegible]):—

"Mean velocity during the trip ..... 29·67 miles per hour.
Deduction for gradients ..... [illegible]

Mean velocity on a level ..... 29·92"

Mr. Parkes falls into this error, because, in speaking of fact, it is said, in our Treatise on Locomotive Engines (page [illegible], first edition, and page [illegible], second edition), that when the engines actual, without help, ascend the inclined planes of the Liverpool and Manchester Railway, the surplus of work thereon resulting for those engines, on an average, the quadrupling of their load to one-sixth more distance—that is to say, that the engine will, in that case, ascendant as much that as if it had conveyed an equal load to a distance greater by one-sixth on a level; and the critic therein legitimately concludes (page [illegible]), that the velocity must be by so much increased, without perceiving that such conversion refers only to the work done, and

as a consequence, to the corresponding consumption of fuel, but not to the velocity, which would suppose not only that the load has been conveyed to one-sixth more distance, but, besides, that it has been conveyed there in the same time. Respecting this mistake, we have also proved that the error of Mr. Parkes has the double consequence of increasing the pretended effect produced and lowering the pretended pressure of the steam in the cylinder, so that the proportion between the power applied and the effect produced is made doubly erroneous, and introduced so in his tables. All this is certainly undeniable, and rests upon tables and facts only, not upon sentiments; and when we say that the whole of the calculations and tables of Mr. Parkes are grounded upon these mistakes, it cannot be denied either, in looking only at Table VIII., col. 10, Table IX., col. 19, Table XIII., col. 9, Table XIV., col. 3, and Table XVI., col. 2. It will be there seen, that every other column is depending upon the alleged velocity of the engine; therefore, we are right when we conclude that the volume and pressure of the steam consumed by the engines (Table IX., cols. 26, 9), the horse-power produced per cubic foot of water vaporised, or the quantity of water and coke employed to produce one horse-power (Table X., cols. 44, 48, 49, &c.), the *moments* generated per second (Table XIII., cols. 11, 12, Table XIV., cols. 8, 10, 11), and, finally, all the consequences derived from the comparison of the results obtained in those tables about the alleged inaccuracy of the experiments, or the respective effects of locomotive and stationary engines, are in every way erroneous. To show, by a particular example, the fallacy of the results to which Mr. Parkes has been led by this wholesale and faulty way of calculating, with a wrongly averaged and greatly exaggerated velocity, without taking account of the gravity, or of any other of the resistances really encountered by the engines, we refer to the two experiments of *Fury*, of which Mr. Parkes says (p. 12?)—"A reference to the *Fury* (previously adverted to as giving anomalous results) exhibits that engine as having performed more work at 23 than at 21¾ miles per hour, by the ratio of 24 to 19; it is, therefore, with certainty, we may conclude one or both of those experiments to be erroneous." We have shown, in our former paper, that this consequence, presented by the critic with such certainty, proceeds only from his having neglected to consider that one of the experiments had taken place from Manchester to Liverpool, and the other, on the contrary, from Liverpool to Manchester; but, on account of the general rising of the road from Manchester towards Liverpool, the gravity opposes more resistance in that direction than in the other; so that, although the load of the engine was lighter in that trip, still there was more work required of the engine to convey that load to the other end of the line. In fact, in making the calculation as it ought to be—that is to say, in taking account of the gravity, overlooked by Mr. Parkes—it is found that in the trip made from Manchester to Liverpool, the work done by the engine amounted to the conveying 1964 tons to one mile, or 65·5 tons to thirty miles, on a level; and in the other trip to 1857 tons to one mile, or 69·6 tons to thirty miles, on a level; therefore, the engine ought to have employed more time in performing the first trip than in the second, which, concurrently with the other errors of computation of Mr. Parkes, had led him to conclude, with "certainty," these experiments to be erroneous.

3. Mr. Parkes (pp. 82, 83) says—"The pressure deduced from the sum of the resistances given in col. 29, for M. de Pambour's experiments, I. to X., is composed—first, of the friction of the engine without load, which includes the resistance opposed to it as a carriage, in common with the train; second, of the additional friction brought upon the engine by the load; third, of the resistance of the load at 8 lbs. per ton. According to the author these three items include all the resistance overcome by the steam, excepting that occasioned by the blast, in excess over the pressure of the atmosphere. The amount of the latter should, therefore, be ascertainable by comparing the whole force exerted by the steam on the piston with the force assigned as requisite to overcome the aforesaid three out of the four component parts of the total resistance. The difference between these pressures should represent the precise amount of the counter-elasticity of the steam in the blast-pipe." So, it is clear, as we have said in our former paper, that Mr. Parkes calculates the pressure due to the blast-pipe merely by taking the difference between the valuation of the divers resistances and his own result of the pressure of the steam in the cylinder. Now, we have already proved that this last result obtained by Mr. Parkes, as representing the pressure in the cylinder, is altogether erroneous; therefore, his supputation of the pressure in the blast-pipe must equally be so. But, besides, it is evident that such a mode of proceeding, by merely taking the difference between two assumed quantities, to establish the value of another unknown, could never give for this one a value sufficiently certain to use it as a test of experiments and facts, since every thing neglected in the calculation, like water lost by priming, resistance of the air, gravity, &c., would necessarily pass to the account of the pressure due to the blast-pipe, and falsify it; consequently, if, by this calculation, Mr. Parkes is led to very inaccurate results, he ought not to be astonished—and we are not, certainly.

4. Mr. Parkes (pp. 98, 99) speaking of our two experiments made with the engine *Leeds*, says—"The author also has informed us, that, in the two experiments, the pressure in the boiler was precisely the same, and the regulator opened to the same degree. The power applied in the two cases was, consequently, precisely equal, and equal weights of water, as steam passed through the cylinders in equal times—whence, it results that the effects should have been similar. The expenditure of power was, however, greater by more than a third in the second than in the first case to produce like effects; for we see that the effective horse-power required 55·43 lbs. of water as steam in the second, and only 40·94 lbs. in the first;" and (p. 100)—"If, as asserted, the pressure in the boiler was precisely the same, and the regulator opened to the same degree, in the second as in the first experiment, equal power must have been generated and expended in the same time, though, at the higher velocity, the lighter load was moved through a greater space in that time. Had Mr. de Pambour reduced his data to the terms of value in these tables, he must inevitably have discovered the numerous errors of fact and deduction which are now brought to light." So, it is clear, that we did not misrepresent the sentiments of Mr. Parkes, when, in our former paper, we said that he concluded against the accuracy of the experiments, because, in the two cases cited, the useful effects of the engine had not been the same. But we have proved, in that paper, that, in spite of an equality of pressure in the boiler, and of opening of the regulator, there is always more loss supported by the engine, in overcoming its friction, the resistance of the air, &c., at a high than at a small velocity; therefore, the useful effect produced, or effective horse-power, ought not to have been similar in the two cases; and the "numerous errors of fact and deduction which are now brought to light" by the critic and his tables, are nothing but a new misconception.

5. We have said that Mr. Parkes submits the two same experiments, and the other experiments afterwards, to the test of a new principle, which consists merely in his making a confusion between the vaporisation effected in traversing the same distance and the vaporisation effected during the same time. This we have rendered clear by the following passage, in which it will be seen that he quotes our words relative to the vaporisation for the same distance, and afterwards applies them to the vaporisation in the same time. We have marked in *italics* the words which make his misreasoning quite evident. He says (p. 99)—"In his *Treatise on Locomotive Engines* (pp. 310 to 312), M. de Pambour states a near parallel to these two experiments, by supposing a case of 'the same engine, with the same pressure in the boiler, travelling *the same distance* with two different loads. *The distance travelled being the same*, the number of turns of the wheel, and consequently of strokes of the piston, or cylinders of steam expended, will be the same in the two cases—so the mass or weight of steam expended will be, in each case, in the ratio of the pressure in the cylinder.' Now, the author has given us the resistances on the piston, which amount, in the first case, to 30·4 lbs., and, in the second, to 25.93 lbs. per square inch; and yet he assumes an equal expenditure of water as steam, *in equal times*, in the two cases. To be consistent, however, with his own rule, above quoted—viz., that the weights of water consumed as steam are to each other as the resistances against the piston, it is obvious that, if, in the first case, 30·4 lbs. of steam passed through the cylinder in *an hour*, 2168 lbs. only would have been expended in the second case;" and (p. 101)—"But we have already seen, that if the quantity of water were correctly taken in the first case, a less quantity must have been consumed in the second, as the loads upon the piston of the engine, in the two experiments, deduced from their velocity and assigned resistances, differed in the ratio of 19·43 to 22·93, and *the water, as steam consumed, in equal times, must necessarily have varied in the same ratio*, or as 30·26 lbs. to 2466 lbs. It would be fruitless to pursue this analysis further, and vain to attempt the rectification of errors—a task which properly belongs to the author." We see that the passage quoted from our work establishes distinctly, that, when an engine draws two different loads over the same ground, the quantities of water vaporised for the same distance must be in proportion to the total pressures of the steam in the cylinder; but Mr. Parkes concludes from it, that the quantities of water vaporised in the same time must be in the ratio of the pressures. Now, we have proved that those two consequences are quite contrary to each other; therefore, the principle alleged by Mr. Parkes, and which he uses afterwards throughout his paper to "test" the accuracy of the experiments, rests merely upon a new mistake of his own, which consists, as we have said, in making a confusion between the vaporisation for the same distance and the vaporisation for the same time—so that there is no occasion "to attempt the rectification of errors" discovered by the application of this new principle.

6. Mr. Parkes, comparing the locomotive with the fixed steam-engine, says (page 96)—"Thus the fixed non-condensing engine is the more economical of the two; but, if Mr. de Pambour's data are correct, we must abandon all preconceived opinions, and all belief in the accuracy of preassertained results on the non-condensing engine; we must reverse our engineering creed, and acknowledge the fixed non-condensing engine, with its single atmospheric resistance, to be far inferior, in economy of steam, to the locomotive, with its plus atmospheric resistance;" and (page 98), "for it is utterly impossible that the locomotive should accomplish an equal effect with one 8th less steam than the condensing engine; to go over this ground again would be a mere repetition of arguments previously used." By these passages, it is fully established that Mr. Parkes would, as we have said in our former paper, conclude against the accuracy of the experiments, because a locomotive-engine cannot possibly produce a useful effect equal to that of a high-pressure non-condensing-engine, or to that of a condensing engine. But we have proved that the case may occur, and Mr. Parkes concedes it him off (pages 105-7), in saying of a sort of locomotive under his charge—"The consumption of steam per effective horse power, per hour, has been shown to be 120 lbs. for the fixed non-condensing engine, and for the locomotive under review (12·54 lbs., which proves the latter to have been the most economical of the two, at nearly the same absolute pressures; this is a new, and, perhaps, an unexpected, result." Therefore Mr. Parkes's first objection was good for nothing; but, besides, it must be borne in mind, that the velocities as 4 by Mr. Parkes, to calculate the effects of the locomotive-engines, being nearly also absolutely increased, as has been proved above, he must necessarily arrive at exaggerated results for the effects which he supposes to have been produced by those engines. Therefore, the new argument presented by the critic, against the accuracy of the experiments, is again the result of his own errors of reasoning and calculations.

7. To prove that the same unfounded arguments have been urged by Mr. Parkes, and with the same results, against every other engineer who has published experiments on locomotive-engines, we need only quote the following passages. Respecting the experiments of Mr. Robert Stephenson, he says (page 84)—"They contain within themselves abundant proofs of error in the operation assigned to the consumption of water as steam. Now, if the arguments, data are correct, it would appear by the ratio which the volume of steam consumed bears to that of the water which produced it (one-twentieth being deducted for waste), that the absolute pressure upon the piston in this case amounted to 61·8 lbs. per square inch, but there was only 30 lbs. in the boiler! It, therefore, 27 cub. in feet of water passed through the cylinders in an hour, in the shape of pure steam, the least pressure, or counter-effect above the atmosphere, was 34·8 lbs., instead of 30 lbs. per square inch on the piston." And (page 86), "Experiment 12. 2. Side view. I have assumed no equal evaporation in the same time as in the foregoing experiment, and if two seven-ths were deducted for waste, the final pressure would be less than nothing, or a vacuum; for, with the introduction of one fourth for waste, 4·4 in the tube, the absolute pressure amounts only to 11·95 lbs., whilst the resistance required 16 lbs. per square inch, and if, contrary to demonstration, it be considered possible that 27 cubic feet of water were converted into pure steam, and that this quantity passed through the cylinders in the hour, the blast pressure would equal the whole force required to balance the assigned resistance, for the absolute pressure on the piston would have amounted to 26·70 lbs. per square inch, whilst the sum of ascertained resistances was only 19 lbs."

Respecting Dr. Lardner's experiments, Mr. Parkes says (page 110):—"It appears, from the tenth conclusion, that the author considers his experiments, so far as they have gone, as giving results in very near accordance. It cannot fail to be remarked that the term *discordance* would seem to be much more appropriate than accordance, to the indications of the last column of the table; but no fair average can be struck from such irregular results." And (page 118):—"If the resistance assigned by Dr. Lardner, as opposed to the motion of the train, be correct, the efficiency of the steam in the locomotive is more than double that obtained by the best condensing-engines—more than treble that derived from stationary non-condensing-engines—and equal to the performance of a Cornish expansive-engine doing a 50,000,000 duty with a bushel of coals."

Respecting Mr. Nicholas Wood's experiments, Mr. Parkes says (page 129)—"The *North Star* affords a sequence of six experiments, at velocities varying from 18¾ to 34¼ miles per hour, but the sequence of results is so irregular as to indicate errors in two of them, which I have accordingly marked and rejected, for it is certain that a greater measureable effect must accrue from the expenditure of equal power at 29 than at 34¼, at 31¼ than at 34 miles per hour, yet the reverse appears on the face of the experiments. It is also equally impossible that a greater momentum should have been generated by a like consumption of force at 34 than at 25 miles per hour."

Respecting Mr. Edward Wood's experiments with the *Hecla*, Mr. Parkes says (page 117):—"On turning to the tables, and examining the results of this experiment (case 2), it will appear:—

"1. That a duty has been performed of double the amount effected by the condensing engine, with an equal expenditure of power (column 14).

"2. That the absolute force impressed upon the pistons, as determined by the relative volumes of water and steam, was 20·90 lbs. per square inch, whereas the tractive effort, requisite to overcome the assigned resistance, amounted to 29·28 lbs. per square inch, exclusive of the force equivalent to the friction of the loaded engine and blast pressure (columns 29-36).

"3. That the power required of the engine to balance the tractive effort alone was 131¼ horses, whilst the absolute power furnished by the steam to move the engine, to neutralise the blast resistance, and to overcome the load, amounted only to 119¼ horses (columns 33-4).

"4. That the water expended as steam per horse-power, per hour, was 37·09 lbs. for the tractive effort or duty only (column 42), whereas the condensing-engine consumes 7·0 lbs. per effective horse power.

"5. That, compared with a fixed non-condensing engine, at equal pressure, the locomotive, though labouring against the heavy counter-pressure of the blast, from which the other is free, is assumed to have performed equal work, with less than one-half the expenditure of power. * * * * * *

"Such are the incredible results arising out of data purporting to be fairly and necessarily deduced from impeachable experiments," &c., &c.

Therefore we had the right to say, in our former paper, that it was remarkable that, in applying his pretended verifications to all the experiments published on locomotive-engines by different engineers, Mr. Parkes had found that the conditions to which he proposed to subject those experiments were not verified in them, and that such a result ought to have put him on his guard against the soundness of his own arguments. But, besides, since we have proved that Mr. Parkes has used, in all his calculations, velocities which are erroneously averaged and greatly exaggerated—that he has taken no account of the gravity on the different inclinations of the road—that he has neglected the friction of the engines, the resistance of the air, &c.—that he has calculated erroneously the pressure and volume of the steam in the cylinder, as well as the pressure due to the blast pipe—that he has tested the experiments by a false principle, grounded upon his confusion of the vaporisation for the same distance with the vaporisation in the same time—and as we shall see very soon, that, in calculating what he calls the *momentum*, he has wrongly considered the whole weight of the train as raised up in the air, instead of being dragged or rolled along the rails; all points clearly demonstrated, and established upon the very tables and words of Mr. Parkes, so that he cannot say that his sentiments have been misrepresented; we had also the right to add, that he heaps errors on errors, combining and complicating them unawares, till he arrives at a point where he does not produce a single result that is not erroneous.

8. After having shown the material errors and general misreasoning which pervade the whole of the strictures of Mr. Parkes against our researches, and those of others, we come to the critic's own conception—that is, to the calculation of the mechanical effect of locomotive engines, by what he calls the *momentum* generated. He says (page 12?):—"Column 2 exhibits the *momentum*, or product of the mass, in tons, of the engine, tender, and train, multiplied into its velocity in feet per second, and the sums thus represent the respective mechanical effect produced per second by each engine." And (page 130)—"Four means are derived from these results. Mean 1 informs us—1st, That when the velocity is increased in the ratio of 1·52 to 1, an increased consumption of power is required for the production of equal mechanical effects, or of equal *momenta*, in the ratio of 1·45 to 1, being somewhat less than in the direct ratio of the velocities; 2d, That power is expended in the ratio of 2·43 to 1, or in about that of the square of the velocities, to produce equal gross commercial results; 3d, That power is expended in the ratio of 3·11 to 1, or in not much less than that of the cubes of the velocities, to realise equal useful commercial results." So, in our former paper, we have properly cited Mr. Parkes, and therefore our conclusion is correct, that what he calls *momentum* is nothing more or less than the common useful effect (weight of engine included), as explained in every work on the subject, with the exception only, that here it is wrongly calculated, by considering the whole train raised up in the air by the engine; and to be convinced that it is wrongly calculated, it suffices to give a glance at table 16, page 14?, of Mr. Parkes's paper. There we see that the *Atlas*, in experiment 1, produced a *momentum* equal to 39·90 tons, gross load of the engine (column 5) multiplied by 14·285 feet per second, mean velocity of the engine per second (column 9) equal 280·01 tons moved one foot per second (column 11). This *momentum*, reduced in pounds, is equal to 6,272,000 lbs. moved one foot per second, or to 396,613,741 lbs. moved one foot per minute. Now, if we observe that a horse-power is expressed by 33,000 lbs. moved one foot per minute, we shall see that the *momentum* produced by the *Atlas*, in that experiment, was equal to

$$\frac{396{,}613{,}741}{33{,}000} = 12019 \text{ horses.}$$

Experiment 2 exhibits a *momentum* equal to 12,584 horses, experiment 3 a *momentum* equal to 5862 horses, and so of the others to the end of the table. The *North Star* alone produced a *momentum*, or useful effect, equal to 21,066 horses! These extraordinary results proceed from Mr. Parkes taking erroneously the total weight in tons, for the resistance moved, as if the whole train were carried up in the air by the engine, whereas the true resistance overcome, in rolling the train along the rails, is only at the rate of about 6 lbs. per ton of weight, besides the friction of the engine, the resistance of the air, &c., neglected, it is true, by Mr. Parkes. Certainly, then, we were right to say, that calculations like these do not tend to the progress of science, but that they would rather lead it back to its first rudiments, and if we have added, besides, that Mr. Parkes has not made one single experiment on locomotive-engines, it is a fact which can easily be verified in looking at his table 16, from which he has drawn his *momenta*, since, in column 1 of that table, the name of every one of the experimenters is given, and there is not one experiment in the name of Mr. Parkes, so that a man so fertile in strictures against the experiments of others has not made a single one himself.

I must now say a few words on the letter of Mr. Parkes, lately inserted in several periodicals, in support of his former strictures against my experiments on locomotive-engines. It would seem, from that letter, that I have attacked Mr. Parkes, but mere dates will settle easily that point. The attacks of Mr. Parkes against me will be found in his paper "On Steam-boilers and Steam-engines," inserted in the *Transactions of the Institution of Civil Engineers*, vol. iii., with the date—London, 1839—given (page 62) at the end of the paper. In this writing I am attacked, almost without interruption, from page 77 to the end. The alleged inaccuracy of my experiments is presented under all possible forms, as the necessary consequence of the results obtained by Mr. Parkes in his tables. It was, then, incumbent upon me to protest against any conclusions taken from these tables, and to show that they were, as well as the reasonings of the critic, an uninterrupted series of mistakes; therefore, I published an answer in the introduction to the second edition of my *Treatise on Locomotive-engines*, Weale, 184?, and afterwards printed it again, with more details and full references, in the *Civil Engineer and Architect's Journal*, September 1, 1841, in the *Surveyor, Engineer, and Architects' Journal*, same date, and in the *Inventors' Advocate*, August 26, 1841. These dates, and the whole subject of the paper itself, show that it is but an answer to the unfounded strictures of Mr. Parkes. Now that I have established that, in my refutation of Mr. Parkes's criticisms, I have not misrepresented his sentiments, it would be very easy for me, and completely justifiable, to add some observations upon the expressions used by Mr. Parkes in that letter, to support by words what he could not support by arguments. But as it is my decided intention to keep distinct from any discussion foreign to the scientific question, I shall abstain from presenting any remarks on the subject, begging only the persons who want to form a precise judgment of this controversy, to read the letter of Mr. Parkes again, after having perused this paper, and then to make their own observations. The letter of Mr. Parkes is printed in the *Literary Gazette*, September 18, 1841, in the *Mining Journal*, same date, and in the *Civil Engineer and Architects' Journal*, October 1, 1841.

ARTESIAN WELL AT GRENELLE.—The tube of galvanised copper put into the Artesian well at Grenelle, in which a tube of sheet-iron had already been introduced, having from some unknown cause become flattened, M. Mulot attempted to withdraw it, but in so doing the tube broke, so that at a depth of 150 metres from the surface there are 200 metres remaining in the hole; great efforts are making with powerful machinery, to repair the consequences of the accident.

RAILROADS IN FRANCE.—The system to be adopted for railroads, as proposed by the Minister of Public Works, is as follows:—"That the districts through which the lines are to pass are to provide the land required, the state undertaking all the works of embankment and excavation. The companies are to find the rails, the *material*, and the buildings, and are to have the benefit of the lines which may be adjudged to them, the duration of grants of privileges and rates of charges being fixed by Government."

FATAL ACCIDENTS ON THE GRAND JUNCTION RAILWAY.—We have just heard of two fatal accidents on this line; the first (and which is also the first that has occurred to a passenger since the opening of the line in 1837) took place at the Hartford station, on Wednesday night. The unfortunate sufferer was Mr. Thomas Philippa, the professor of music, who, it appears, was, in company with Mr. Robinson, about to enter on a professional excursion to Ireland, when, in attempting to get into a carriage after the train had commenced moving, he slipped, and one of the wheels passed over him, doing him so much injury that he died shortly afterwards. —Another fatal accident also occurred, at the Crewe station, on the following day (Thursday last); Mr. Lowe, a respectable attorney (of Nantwich), on arriving at this station from Liverpool, opened the carriage door, and made a jump towards the parapet, but, missing his distance, fell with his back across the rails, and met with a shocking death—the wheels of the carriages passing over him.

ON THE MINERAL BEDS OF CONDROS.

M. d'Omalius d'Halloy communicated to the Brussels Academy of Sciences a notice concerning the relative bearing and origin of the deposits of the clay, the sand, and the "phtanite" of Condros, a country situated between the Meuse, Lesse, and Ourte rivers. These deposits may, according to the terms employed in geology, be considered as consisting of beds, masses, and veins. M. d'Omalius, however, considers that they have all the same origin. The mineralogical resemblance of the clays and sands to the plastic clay of Paris, has caused them to be considered as tertiary; but their intimate alliance to metallic substances, and the circumstance that none of the tertiary fossils have hitherto been found either in the district of Condros, or in the other elevated localities of the massive anthracite (*du massif anthraxifère*), are, in the apprehension of M. d'Omalius, so many reasons which incline him to separate them entirely from the tertiary series of rocks. According to him, these sands, clays, and mineral ores have followed hard upon the formation of the coal measures, and have come to light during their contortion (*sont arrivés au jour lors du plissement*). As to their mode of formation, M. d'Omalius believes, that if, instead of deriving these sands and clays from superficial waters, we were to suppose they proceeded from the interior, like metallic veins, and as M. d'Alberti supposes with respect to triasic sands and sandstones (*les grès et les sables triasiques*), their position would be explained with the greatest facility. The volatilisation of silica does not appear to him of more difficult supposition than that of magnesia, which is admitted by many geologists. Accordingly, he remarks, it may easily be conceived that if silicious gas traversed masses of waters, it might produce chemical reactions which would precipitate silex, either in a pure state, or in that of silicates of alumina, or, to put it in other terms, which might produce sands and clays, in the same way as the waters of certain existing fountains precipitate carbonised lime, because the carbonic acid which held this salt in solution is precipitated when the water comes to the surface. M. d'Omalius designates by the term "phtanite" the whole of that substance which the inhabitants of the Condros district call "clavin," although it is only a portion of these matters which belong to that modification of quartz to which Haüy has given the appellation of "phtanite," and though they present numerous varieties, in passing from phtanite to grey jasper, to red jasper, to hornstone, millstone, flint (pyromaque), quartz, sandstone psammite, loam (limonite), to red iron ore, schist, anpelite, &c. The relations of the phtanites with the minerals of iron, also with the clays and sands, induce M. d'Omalius to think that they have the same origin, to this extent at least, that they proceed alike from internal emanations; but their state of cohesion leads to the belief that they are not the result of instantaneous precipitations, which are supposed to occur in the case of clays and sands, but that they must, on the contrary, proceed from molecules, which preserve their state of solution till they arrive at the surface, and then unite after the common laws of affinity.

NITRATE OF SODA QUARRIES IN PERU, AND ANHYDROUS SULPHATE OF SODA.

The nitre is found upon a small portion of the plain, extending along where the latter and high grounds between it and the sea blend together for a distance, in a north and south bearing, of about 150 miles; but nitre works are only as yet established upon a small portion of this line. It is combined with the soil to the depth of three feet, the two forming so hard a mass as to require boring and blasting, after which it is pounded, dissolved, clarified, and crystallised, and packed off on donkeys to Iquique, where it sells for three and a half dollars per 100 lbs., duty included. The residuum, after the extraction of the nitre, both from taste and appearance, could not be mistaken; while the further information that it was a deadly poison, and the clothes once wet with it never dried, still more more clearly pointed out the muriate of lime. This nitre, as it is called, is not the proper nitre, which is the nitrate of potassa, but simply the nitrate of soda. The proper nitre is an efflorescent salt, which dries up into a light powder when exposed even to a moist atmosphere, while the nitrate of soda of Tarapaca is a deliquescent salt that runs to solution under similar circumstances; but the climate of Western Peru being totally destitute of moisture, hence this nitrate is found to answer well there in the manufacture of gunpowder as a substitute for the real nitre, and in which way it has long been applied. In Europe it is used in manufacturing rockets and other fireworks for saint-day displays in Catholic countries, and as manure for particular soils. Western Peru furnishing almost nothing but the precious metals to make a return to England in payment of manufactures, hence this nitre was immediately hailed as a great boon to the return ships by furnishing them a profitable ballast. Many other mineral substances exist on this coast, from which an equally good trade might be derived; among which I may mention the anhydrous Glauber salt, or Glauber salt, having no water of crystallisation, of which a nephew of the celebrated Bolivar, at Cobija, who gave me a specimen, told me there was an inexhaustible supply in the valley of Atacoma and other contiguous places. The sulphate of soda, or Glauber salt, is now extensively used in England in the manufacture of British soda; hence it may be advisable for mercantile men to turn their attention to these Peruvian mines, where it is got for the digging; and the water of crystallisation amounting to about half of the weight, hence this Peruvian sulphate must be double the value, as relates to weight, to that of England, while only half the freight is paid in its transmission, from this 50 per cent. absence of water in its composition.

FROM THE LONDON GAZETTE,

Tuesday, October 26.

INSOLVENTS.

Oct. 23—Thomas Pilbeam, Parker-street, Drury-lane, smith.
26—John Fowkes, Leicester, hosier.
26—J. E. Worrell, Sussex-street, Tottenham-court-road, licensed victualler.
26—John Worrell, Sussex-street, Tottenham-court-road, licensed victualler.
26—Robert Harris, Crickhowell, Brecknoshire, chymist.

BANKRUPTS.

P. Rossetti, Lime-street, merchant. [Rock, Mincing-lane.
J. A. Smith and W. Monteath, Oxford-street, linendrapers. [Lloyd, Cheapside.
J. E. Saunders, jun., Upper Thames-street, fish factor. [Walker and Reeve, Basinghall-street.
J. Hall and S. Vincent, 62, Mary-axe, wholesale tea dealers. [Hughes, Rawsey, and Stutesman, Buckleersbury.
H. Bude, Birmingham, cigar merchant. [Shaw, Ely-place, Holborn.
J. L. Freeland, Worcester, innkeeper. [Bedford, Gray's Inn square.
J. T. Watson, Worcester, linendraper. [Hardwick and Parkinson, Cateaton-street.
E. and J. Salee, Barnard Castle, Durham, carpet manufacturers. [Tyas, Essex-street, buildings, Strand.
W. Playne, Gloucester, saddler. [Poole and Gamlen, Gray's Inn.

DIVIDENDS.

Nov. 16, E. and F. Whitmore and J. and J. Wells, Lombard-street, bankers—16, J. Deacon, Berners-street, Oxford-street, upholsterer—J. Cadbury, New Bond-st., cheesemonger—19, N. Batho, Salford, machine maker—22, E. Rowbottom, Manchester, flour dealer—16, S. Fox, Manchester, corn dealer—16, G. Malam, Spalding, Lincolnshire, gas manufacturer—16, H. Staniforth, Kingston-upon-Hull, merchant—17, W. Elder, Newcastle-upon-Tyne, grocer—23, W. Latham, Halifax, Yorkshire, linendraper—16, R. Waite, Barnard Castle, Durham, grocer—19, C. Lundy, Kingston-upon-Hull, straw hat manufacturer.

Friday, October 29.

INSOLVENTS.

Oct. 28.—Benjamin Ingram, Beech street, Barbican, timber merchant.
Charles Eldon Girard, Stevenage, chemist and druggist.

BANKRUPTS.

S. Smith and S. Marshall, Austinfriars, Russia brokers. [Crowder and Maynard, Mincing-lane-place.
J. Rogers, St. Paul's Churchyard, commission agent. [Gibbard, King-street.
S. Fletcher, High Holborn, tallow merchant. [Crowder and Co., Mincing-lane-st.
J. and G. Laing Eastbourne, corn manufacturers. [Baker and Co., Buckleersbury.
S. Southall, jun., Birmingham, merchant. [Johnson and Co., Temple.
H. and S. Hildyard, Brigg, Lincolnshire, wine and spirit merchants. [Ashurst, Cheapside.

DIVIDENDS.

Nov. 20, J. Firth, Webber-street, Lambeth, licensed victualler—J. Carruthers, Londonhall-street, tea dealer—22, G. and W. Hobbs, Clement's Inn, money scrivener—M. W. Vasey, Newbury, Berkshire, innkeeper—19, H. J. Pettet, Hastings, Sussex, jeweller—E. Franks, Portsea, glass and china dealer—E. Elsh, Milton-next-Sittingbourne, Kent, grocer—Nov. 2, W. Davenport, Ashby-de-la-Zouch, Leicestershire, cabinet maker—Nov. 19, N. Claughton, Yeadon, Yorkshire, fulling miller—16, J. Hudson, J. Clark, and J. Foster, Liverpool, merchants—19, W. Sharp, Romsey, Southampton, paper manufacturer—23, T. Law, jun., Rochdale, Lancashire, corn miller—24, T. J. Thomas, Halifax, Yorkshire, jeweller.

CERTIFICATES to be granted, unless cause be shown to the contrary, on or before Nov. 19.

H. Clifton, Worcester, grocer—W. Haliburn, Blackburn, Lancashire, merchant—H. H. Dowsman, Kidwelly, Carmarthenshire, tin-plate manufacturer—W. Yorke, Waterhead-mill, near Oldham, Lancashire, innkeeper—T. S. Cogan, Bristol, tailor—E. M. Dunsiow, Buckleersbury, merchant—J. Aspinall, Birmingham, victualler—S. N. Wright, Welbeck, Derbyshire, paper manufacturer—J. Newman, Leeds, tanner, miller.

B. Little, Great Yarmouth, linendraper—W. Dagley, Newcastle-upon-Tyne, grocer—W. Sowster, Birmingham, Leicestershire, carpenter—W. Brown, Sutton-under-Whitestonecliffe, Yorkshire, cattle dealer—W. Wilson, Liverpool, [illegible]—E. A. Lewis, Fleet-st. [illegible]—C. Bulkeley, [illegible]

MONEY MARKET AND CITY NEWS.

CURRENT PRICES OF ENGLISH AND FOREIGN FUNDS.

Consols Money, 86¾ ⅞	Dutch, 2½ per Cent., 51½ ⅝
Ditto Account, 86¾ ⅞	Ditto, 5 per Cent., 99¾ 9
Long Annuities, 17⅛	Portuguese, 5 per Cent., 29¾ ⅞
Bank Stock, 162 ⅞	Ditto, 3 per Cent., 17½ 18½
Belgian Bonds, 5 per Cent., 102 3	Spanish, Actives, 5 per Cent., 20¾ ⅝
Brazil, 5 per Cent., 65½ 7	Chili, 6 per Cent., 64 6
Danish, 5 per Cent., 76 9	Colombian, 6 per Cent., 19¾ 19½
Russian, 5 per Cent., 111½ 12½	Mexican, 5 per Cent., 24¾ 5½

REMARKS ON THE OPERATIONS OF THE WEEK.

SATURDAY, Oct. 23.—Very little business was transacted in the English funds during the day, and prices remained without material alteration.—The dealings in foreign stocks were also limited, but Spanish were somewhat firmer, and may be quoted a shade better.—The share market still bears a very heavy appearance! Brights closed at 12¾ to ⅞ dis.

MONDAY.—A slight change for the better took place in English stocks; Consols for the Account closed at 86½ to ⅞, and Money 87½ to 8; Bank Stock, 162½ to 3½; the price of Exchequer Bills, at the commencement of business, was 11s. to 12s. pm., but soon declined to 7 s. to 12s. pm., at which they closed, but hardly any business was done, and the quotation was little more than nominal.—The foreign stocks were sparingly dealt in, and the chief movements were the decline in Spanish and the advance in Brazilian, which appears now as rather a speculative security, probably against the chances of the news that may be received by the next packet.—There was no change of importance in the share market; Birminghams are still quoted 66 to 8 pm.; South-Westerns, 5½ to 7½ per share; Brightons, 12¾ to ⅞ dis.; and Blackwalls, 8¾ to ⅞ per share, being rather lower than Saturday.

TUESDAY.—The English funds were steady, without any material change in prices.—The only change in the foreign securities is in Spanish stock, the Active bonds leaving off at 20¾ to ⅞, ⅞ lower than yesterday.—The prices in the share market remain much the same, with little business doing; Brightons closed at 12¾ to 12 dis., and Blackwalls at 8¾ to ⅞ per share.—Cobre Copper Mines, 38.—London and Westminster Bank, 21¼; Provincial of Ireland, 4½.

The rates of the continental exchanges were rather higher to-day on Hamburgh; on Amsterdam much the same as last post; but on Paris they were lower, in consequence of the operations connected with the French loan.

WEDNESDAY.—The greatest excitement continues to prevail with respect to certain fraudulent transactions in Exchequer Bills; an inquiry into the circumstances of which has now for some days occupied the attention of all parties, and is still being vigorously prosecuted; for the present all business in that security is suspended. The alarm thus created prevents the public from making their usual investments in Exchequer Bills, and have induced them to turn their attention to the funded debts instead, which has created a considerable demand for money stock, and Consols have in consequence improved to 86¾ to ⅞ for the Account, and 86¾ to ⅞ for Money; 3 per Cents. Reduced, 87½ to ¾; 3½ per Cents. Reduced, 96⅞ to ⅞; New 3½ per Cents., 99½ to ⅞.—In the foreign house Brazilian bonds have again improved 2 per cent., being quoted 58 to 9; Belgian are 103 to 4, also rather higher; Mexican, 24¾; Spanish Active bonds leave off at 20¾ to ⅞; the Deferred, at 19 to ⅞; and the Passive, 4½ to 5.—Business in shares was limited, but Great Westerns have improved 3s. per share, being now quoted at 11 to 12 pm.; Birminghams continue at 6½ to 8 pm.; South-Westerns, 5½ to ⅞ per share; Brightons have again receded to 13¾ to ⅞ dis., and Blackwalls to 8 to ⅞ per share; South Easterns, 3½ to 4 dis.

THURSDAY.—The public funds exhibited much weakness, a fall of ⅞ per cent. having occurred, and the effect is all attributed to the Exchequer Bill business, which has reduced the market to such a state that there is nothing like steadiness in prices. The price of Exchequer Bills is quoted nominally at 10s., 11s., and 12s. pm.; but, until the public mind is set at rest, these securities will remain almost unsaleable. Consols for Money have declined to 87⅛, and for the Account to 86⅞; Bank Stock left off 163 to 4; India Stock, 244 to 46; 5 per Cent. Reduced, 87; and India Bonds, 2 pm.—The foreign stocks were also heavy, and the slight reaction apparent in Brazilian is as much the effect of the state of things in the English market as the bad news received from Rio de Janeiro. Spanish Actives closed 20¾ to ⅞; and Brazilian, 58 to 59.—This was settling day in shares; the chief fluctuations have been in the Brighton line, which leave off to-day at 13¾ to ⅞ dis. per share, owing to a slip last night in the line near the Merstham Tunnel, which has prevented the trains from running to-day, as the workmen refused to work during the night owing to the inclemency of the weather. Birminghams are quoted 6½ to 8 pm.; Great Westerns, 11¾ to 12 pm.; and Blackwalls, 8¾ per share.—Australasian Bank, new, 3; London and Westminster Bank, 21¼.—We have advices to day from Rio de Janeiro of the 31st of August, from Buenos Ayres of the 16th, and Monte Video of the 14th of the same month.

FRIDAY.—The public funds were flat, with little business, and the desire was rather to sell stock than to buy. Consols for Money, 87¼ to 8⅛; for Account, 86¾; Bank Stock, 163 to 164; India Stock, 243 to 244; Three per Cent. Reduced, 86¾.—In the foreign stock market the settlement of the half monthly account took place; it passed over quietly, as money was easy upon good security, and the request from the committee of the Stock Exchange that those parties who had accounts open in connexion with Exchequer Bills would forthwith close them, was the only novelty that presented itself during the arrangement.—The share market was flat, and Birminghams have receded to 6¾ to 8 pm. The Great Westerns are also lower, 10½ to 11¾ pm.; South-Westerns maintain the price of 5¾ to 7¾ per share; Brightons, 13¾ ⅞ dis.; and Blackwalls, 8 to 8½ per share.—Cobre Copper Mining Company, 37½ to ⅞.—Australasian Bank, 3½ to 3¾; ditto, new, 1¾; London and Westminster Bank, 21¼; Provincial Bank of Ireland, 4½.

We learn from Paris that the London and Dover Railroad Company were in treaty with the French Government to execute the line from Paris to Belgium and to Calais. The negotiations are broken off. M. Rothschild, it is said, is now in treaty for the road.

The foreign exchanges were rather lower to-day, in consequence of the general demand for bills. The latest rates were—Amsterdam, short, 12 2½ to ⅞; ditto, three months, 12 4½; Rotterdam, three months, 12 4½ to ⅞; Antwerp, 12 3½ to ⅞; Hamburgh, 13 10 to ⅞; and Paris, short, 25 35 to 45.

The premium on gold at Paris is 6 per mille, which, at the English Mint price of 3l. 17s. 10½d. per ounce for standard gold, gives an exchange of 25. 35, and the exchange at Paris on London at short being 25. 40, it follows that gold is 0·20 per cent. dearer in London than in Paris.

By advices from Hamburgh the price of gold is 438 per mark, which, at the English Mint price of 3l. 17s. 10½d. per ounce for standard gold, gives an exchange of 13. 6½, and the exchange at Hamburgh on London at short being 13. 7½, it follows that gold is 0·38 per cent. dearer in London than in Hamburgh.

The course of exchange at New York on London is 110 per cent., and the par of exchange between England and America being 108 28·40 per cent., it follows that the exchange is 0·41 per cent. in favour of England. But the quoted exchange at New York being for bills at sixty days' sight, the interest must be added to the above difference.

GOVERNMENT NOTICE RELATIVE TO EXCHEQUER BILLS.

In order as far as possible to relieve the public from the anxiety occasioned by the recent disclosures as to the forgery of Exchequer Bills, the First Lord of the Treasury and the Chancellor of the Exchequer think it right to announce that there is no reason to believe that any Exchequer Bills issued in March or June last by the Paymaster of Exchequer Bills from their office, in regular exchange for bills of an antecedent date, are other than genuine. They think it right further to give notice, that all Exchequer Bills brought to the office of the Comptroller-General of the Exchequer will be examined and compared with the counterfoils in the said office, and such as correspond with the counterfoils will be certified as genuine, and stamped accordingly. The First Lord of the Treasury and the Chancellor of the Exchequer have caused this notification to be made at the earliest period at which it was possible to make it, consistently with a due examination into the circumstances of the case.—Downing street, Oct. 25.

[*From our own correspondents.*]

PARIS, Oct. 23.—3 per Cents., 115f. 60c.; 4½ per Cents., 105f. 50c.; 5 per Cents., 79f. 80c.; Bank Actions, 2540f.; Rente de Naples, (at. 2c.); Romans, 104; Spanish Actives, 21; ditto Differds, 9¾; ditto Passives, 5¼; Belgian 5 per Cents. 102½, 103; ditto, 104½, 105; Belgian Bank, 7025. 50c.; Haytian Loan, 426f.—Versailles Railway, R. D., 5 15. 50c.; L. D., 1025. 50c.; Orleans, 47f. 75c.; St. Germain to Rive, 550f. Exchange on London, one month, money, 25f. 50c.; three months, paper, 25f. 10c.

AMSTERDAM, Oct. 23.—Actual Debt, 14 per Cents., 5½ to 1¾; 5 per Cents., 99¾ to ⅞; Amort Synd., 41 per Cents., 99¾ to 1¾; Commercial Company, 4½ per Cents., 104¾ to ⅞; Loan, 1837, 5 per Cents., 97 to 1. Exchange on London, 12 10; two months, 12; ditto on Hamburgh, 35 70; two months, 35 30.

BERLIN, Oct. 16.—St. Schuld Sch., 4 per Cents., 101 bills, 100¾ money; Prussian English Bonds, 1830, 4 per Cents., 102 bills, 101¾ money.

HAMBURGH, Oct. 23.—Austrian 5 per Cents., 107 bills; Bank Shares, 1535 bills, 1540 money; Russian English Loan, 106¾ bills, 106 money; 5 per Cents. Hamburgh Certificates, 101¾ bills; Hope and Co., 3d and 4th Series, 98¾ bills, 98 money; ditto, in Certificates, 97¾ bills, 97¼ money; New 4 per Cents., 90¾ bills, 90¼ money; Dutch Actual Debt, 2½ per Cents., 56 bills; Polish Bonds, 110 bids; New Tickets, 15½ bills; Danish English Loan, 5 per Cents., 76¾ bids, 77¼ money.

VIENNA, Oct. 15.—5 per Cents., 116; 4 per Cents., 99¾; 3 per Cents., 74¼; Bank Shares, 1525.

LATEST PRICES OF IRISH STOCKS.—5 per Cent. Consols, 87½—¾; Stock, 96¾—Ditto New, 10½, 10¾—¾ per Cent. Debentures, 6½—Bank Stock, —Ballinasloe Railway, 7½—Drogheda, 7—National Insurance Company, 17—City of Dublin Steam Company, 110¾—Ditto Stock, 100—5½—British and Irish Steam Company, 6½—Hibernian Bank, 20¾—Royal Bank, —Mining Company of Ireland, 14¾—Wicklow Copper Mines, 4.

LEEDS, THURSDAY.—Since last week the share market in general has been steady, with a disposition to improvement, which, if it were not for the near approach of winter, would almost lead to the belief that the prices of railway shares generally would advance. Hull and Selbys are very firm at 104 per share; Leeds and Selbys still at 52½, and Manchester and Leeds 36½, in steady demand; whilst North Midlands are firm at 65½ to 66½; South Easterns and Dovers have at length taken a turn for the better, and have improved full 1½ per share; whilst Cheltenham and Great Westerns are inquired for at about 6½ dis., with a tendency upwards, in consequence of the meeting at Stroud, held to-day, at which it is expected to be determined to proceed no further with this line towards Cirencester; York and North Midlands continue to attract attention at 17½ to 19½ pm., and if the meeting held at Leeds to-morrow of the North Midland should be favourable to the furtherance of the line from Bottington to Stockton, no doubt this line, as well as those which have links in the chain, will be materially benefited, and, consequently, the prices improved. In Bank stock there is very little doing, and prices are merely nominal.—North Midland Railway, 65½; York and North Midland, 18½; Leeds and Selby, 52½; Hull and Selby, 104½; Great North of England, 52½; Manchester and Leeds, 36½; Sheffield and Rotherham, 20½, ex div.—Leeds Banking Company, 124½; Leeds and West Riding, 10½; Leeds Commercial, 24½; Yorkshire District, 9½; Yorkshire Agricultural and Commercial, 24½; York City and County, 20½; York Union, 18.—Leeds and Liverpool Canal, 740½; Barnsley, 250½; Hashfield, 90½; Sheffield, 90½—Leeds and Yorkshire Assurance Company, 15½—Leeds Gas Company, 10½; Leeds New Gas Company, 37½—Leeds Commercial Buildings, 8½.

R. B. WATSON & CO.

BRISTOL, FRIDAY.—The tone of our market has improved since my last, though buyers are timid—consequently but little business doing.—Great Western Railway, 75¾ to 76½; ditto halves, 55¾ to 56½; ditto fifths, 71¾ to 72½; Bristol and Exeter, 27½ to 27¾; Bristol and Gloucester, 11 to 12; Birmingham and Gloucester, 54½ to 55½; Cheltenham Union, 14½ to 16½; Taff Vale, 7½.—Bristol Gas Company, 52½.

HULL, THURSDAY.—Our market this week is rather firmer; the business done has, however, been trifling, and prices remain almost without alteration.—Birmingham and Derby Railway, 45½ to 50½; Birmingham and Gloucester, 54½ to 56½; Great North of England, 64½; Hull and Selby, 104½; Leeds and Selby, 95½; London and Birmingham, 154½; Manchester and Leeds, 36½ to 38½; Midland Counties, 80½; North Midland, 65½; York and North Midland, 78½.—Yorkshire District Bank, 9½; Hull, 7½; Sunderland Joint-Stock, 6½.—Hull Flax and Cotton Mills, 190½.

LIVERPOOL, THURSDAY.—The market continues dull, with but very little business doing. Grand Junction shares have recovered the recent fall, and are now quoted at 191½. The only sales have been—London and Birmingham, 156½; ditto, new thirds, 22½; Grand Junction, 189½ to 191½.

MANCHESTER, THURSDAY.—We have no particular change to note in our market; business but limited. The sales are—Liverpool and Manchester, quarter shares, 4½; Manchester and Leeds, 36½; ditto, quarter shares, 22½; London and Birmingham, new 3½ shares, 23½.

BIRMINGHAM, THURSDAY.—Birmingham and Derby Railway, 49½; Birmingham and Gloucester, 55½; London and Brighton, 38½; Great Western, 76½; Grand Junction, 185½; London and Birmingham, 159½; Manchester and Leeds, 54½.—Birmingham Banking Company, 18½.

BANKING.—THE CLEARING-HOUSE.—The Appendix, No. 31, of the second report of the committee of the House of Commons upon Banks of Issue, consists of an account of the aggregate demands made through the clearing-house, on each day in the year 1839, together with the amount of bank notes employed in the clearing-house on the same day, omitting all fractions under 100l. The following is a summary of the contents of the Appendix:—

January, 1839	£82,762,400	£4,348,500
February	76,164,700	4,960,000
March	75,879,200	5,621,500
April	88,839,200	5,836,000
May	80,507,600	5,615,000
June	67,418,900	5,069,000
July	83,865,200	6,784,800
August	87,610,500	6,164,500
September	74,237,700	5,129,800
October	87,478,400	5,706,800
November	81,739,300	4,791,100
December	70,833,800	4,715,000
	£954,611,600	£66,275,600

From this it appears that the effect of the clearing-house is to diminish the amount of currency employed in the business of the London bankers in the ratio of 4 to 1.

SALE OF BLACK TIN,

By Ticket, on the 28th of October, at Penzance.

Mines.	Tons.	Price.	Amount.	Purchasers.
Ballewidden	33	£46 0 0	£1518 0 0	L. C. & W. Daubuz
ditto	10	38 12 6	385 5 0	Bolithos and Co.
ditto	8	48 15 0	390 0 0	Williams
Total tons, 51.—Total amount,			£2294 5 0.	

SALE OF COPPER ORES IN CORNWALL

Sampled Oct. 13, and Sold at Farquharson's Hotel, Truro, Oct. 28.

Mines.	Tons.	Price.	Purchasers.	Mines.	Tons.	Price.	Purchasers.
United M.	145	£6 8 0	Williams.	Hallenbeag.	52	£6 11 6	Freemans.
ditto	127	7 4 6	—	ditto	38	7 14 6	—
ditto	126	10 18 6	Vivians.	ditto	25	7 17 6	Williams.
ditto	122	10 15 6	—	Tresavean	86	8 19 6	—
ditto	102	6 0 0	Williams.	ditto	72	4 13 6	Nevill & Co
ditto	46	5 15 0	—	ditto	66	5 9 6	—
ditto	46	5 15 0	Mines Royal	ditto	63	4 16 6	Williams.
ditto	88	5 0 0	Nevill & Co.	Fowey C.	121	6 4 0	Freemans.
ditto	81	6 16 6	Vivians.	ditto	56½	5 7 0	—
ditto	79	4 18 6	—	ditto	56½	5 7 0	Nevill & Co.
ditto	78	4 10 6	—	Consols	124	6 9 0	Fredmans.
ditto	77	6 16 6	Nevill & Co.	ditto	72	12 4 0	—
ditto	72	4 13 6	Vivians.	Gt. W. Char.	33½	4 13 6	Vivians.
ditto	71	7 6 0	Nevill & Co.	ditto	33½	4 13 6	Williams.
Hallenbeag.	2½	2 0 0	Mines Royal	ditto	41	5 17 6	Vivians.
ditto	23½	2 0 0	Vivians.	ditto	20	1 4 0	Williams.
ditto	23½	2 0 0	Williams.	Cliff Downs	21	1 2 0	—
ditto	61	6 16 6	Freemans.	ditto	19	1 0 0	Vivians.
ditto	55	4 6 0	Nevill & Co.				

TOTAL PRODUCE.

United Mines	1260	£8792 19 0	Consolidated	196	£1678 4 0
Hallenbeagle	307	1627 3 0	Gt. Wh. Charlotte	130	513 17 0
Tresavean	287	1778 15 6	Cliff Downs	40	42 2 0
Fowey Consols	234	1354 15 0			

Average standard, 126l. 16s.—Average produce, 7¼.—Average price, 6l. 9s. 0d.—Quantity of ore, 2419 tons.—Quantity of fine copper, 177 tons 10 cwt.—Amount of money, 15,772l. 15s. 6d.—Average standard of last sale, 123l. 6s.—Average Produce, 8¾.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal Company	60½	£311 16 0
Vivian and Sons	627½	4713 2 5
Freeman and Co.	524½	3782 9 0
Sims, Williams, Neville, Druce, and Co.	485½	2729 11 0
Williams, Foster, and Co.	691½	4245 16 5
Total	2449	£15,772 15 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—North Roskear, 817; Consolidated Mines, 659; Par Consols, 413; South Roskear, &c., 311; United Hills, 304; Dolcoath, 303; Fowey Consols, 270; East Wheal Crofty, 266; Tretoil, 243; Treleigh Consols, 191; East Pool, 186; South Wheal Basset, 173; Wheal Harriet, 93; Copper Bottom, 26.—Total, 4232 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Wheal Friendship, &c., 85; Fowey Consols, 261; Wheal St. Andrew, 241; Wheal Boller, 223; Levant, 207; Wheal Trewavas, 164; Providence Mines, 84; Relistian, 66; Wheal Busy, 54; Wheal Speed, 42.—Total, 1768 tons.

SALE OF COPPER ORES AT SWANSEA.

Sampled October 5, and sold on the 27th

Mines.	Tons.	Produce.	Standard.	Price.	Mines.	Tons.	Produce.	Standard.	Price.
Cobre	60	27½	96¾	19 3 0	Cobre	115	14¾	100¾	12 13 6
ditto	74	21½	90¾	18 9 6	ditto	12	2½	90¾	18 6 0
ditto	67	20½	98	19 2 0	ditto	57	2½	96¾	18 8 6
ditto	57	21½	97½	19 2 0	ditto	11	14	100	11 15 0
ditto	55	21½	97	18 5 0	Allihies	134	10	119½	9 14 0
ditto	20	22½	105½	19 16 6	ditto	63	9½	127	9 10 0
ditto	100	13½	101½	11 8 6	ditto	73	10	127½	9 16 6
ditto	90	13½	101	11 8 6	Santiago	91	15½	100½	13 3 6
ditto	70	20½	96	17 3 6	ditto	90	15½	92½	13 9 6
ditto	65	20½	97	17 17 6	ditto	32	15½	99½	12 19 0
ditto	49	14½	100¾	11 19 6	Chili	94	15½	94½	16 3 6
ditto	125	15	99½	12 13 6	ditto	49	15½	101	13 3 0

TOTAL PRODUCE.

Cobre	1014	£1555 14 6	Santiago	513	£2823 16 0
Allihies	271	2622 16 0	Chili	139	2112 4 0
Total tons, 1937.—Total amount,			£9,114 12 6		

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Freeman and Co.	57½	£479 0 6
P. Grenfell and Sons	808½	11212 9 0
Sims, Williams, Neville, Druce, and Co.	119	2131 11 6
Vivian and Sons	470	5291 12 6
Total	1437	£9,114 12 6

Copper ores for sale November 10.—Cobre 112, ditto 111, ditto 101, ditto 93, ditto 80, ditto 74, ditto 70, ditto 57, ditto 56, ditto 45, ditto 104, ditto 87, ditto 95, ditto 65, ditto 47, ditto 102, ditto 100, ditto 91, ditto 93, ditto 60, ditto 58, ditto 55, ditto 42—Santiago 102, ditto 101, ditto 90, ditto 88, ditto 79, ditto 77, ditto 67, ditto 61—Chili 79, ditto 56, ditto 4, ditto 50, ditto 60, ditto 44, ditto 16, ditto 14—Knockmahon 104—Cronnebrow 21, ditto 17, ditto 1—Allihies 57.—Total, 3141 tons.

PRICES OF MATERIALS IN CORNWALL

AS SUPPLIED AT THE PRINCIPAL MINES IN THE FOLLOWING MONTHS.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Common iron, per cwt.	0s 10	7s 0d	Iron-wire sieves, each	2s 3d	2s 3d
Half-inch square ditto	8 1	8 9	Iron-wire work, per foot	4	4
Best length white chain	29 0	29 0	Board nails, per cwt.	17 0	17 0
Better plates	13 6	12 0	Half-board ditto, per 1000	5 0	5 0
Hoop iron	11 6	11 6	Hatch ditto	3 0	3 0
Nail rods	9 0	9 0	Half-hatch ditto	3 0	3 0
Miners' shovels	30 0	30 0	Linseed oil, per gallon	2 6	2 9
Charcoal iron	15 6	14 0	Rape ditto	3 10	3 10
Gunpowder, per 100 lbs.	40 0	40 0	Sixth, per foot	1 4	1 7
Leadbos, per lb.	0½	0½	Pitsa	1 4	1 4
Cinch, per ton, at quay	11 6	11 6	Shoot boards, per cwt.	27 0	24 0
Candles, per dozen lbs.	5 5	5 4	Barrow boards	11 6	11 6
Tallow, per cwt.	40 0	42 0	Half-barrow ditto	30 0	30 0
Rope	36 0	36 0	Ba. nails	16 10	16 10
Flat rope	40 0	40 0	Pick hills	1 5	1 5
Hemp	0 4½	0 4½	Shovel hills	2 6	2 3
White yarn, per cwt.	37 0	34 0	White ground lead	22 0	22 0
White rope	38 0	33 0	Red lead	28 0	28 0
Brass-wire sieves, each	3 5	3 9	Best rolled iron	11 6	11 6
Ditto machine	13 0	13 0	Blistered steel	40 0	40 0

** The figures at the top of the columns refer to months—as 1 Jan., 1 Feb, &c.

LATEST CURRENT PRICES OF METALS.

LONDON, OCTOBER 29, 1841.

	£ s. d.		£ s. d.
Iron, Eng.—Bar *ton*	6 0 0 to 7 0 0	Copper—Foreign (*dy.* 37s.)	—
Do. Carg. in Wales	6 0 0	Tin, Brit.—Blocks *cwt*	3 18 0
Hoops *ton*	9 10 0	Bars do.	4 0 0
Sheets, *ton*	10 10 0	Banca	0 0 0 to 3 18 0
Pig, No. 1 *ton*	4 15 0	Straits	0 0 0 to 3 11 0
Do. in Wales	4 0 0	Tin Plates—I.C. (box)	1 10 0 to 1 14 0
Foreign—Swedes, en, 5*d.* *ton*	12 10 0	I.X. do.	1 16 0 to 2 0 0
Russian con. *ton*	14 0 0	(Others in proportion.)	
Duty 30s. P.S.I. *ton*	15 0 0	Lead, Brit.—Pig *ton*	20 0 0
per ton. C.C.N.D. *ton*	18 0 0	Sheet *ton*	21 0 0
Steel, Eng. Blistered,	25 0 0 to 45 0 0	Shot *ton*	22 0 0
Shear do. do.	45 0 0 .. 84 0 0	Red *ton*	21 0 0
Cast do. do.	45 0 0 .. 84 0 0	White (dry) *ton*	26 0 0
Foreign—Swedes in kgs 5*d* *ton*	18 10 0	Do. (gd. in oil) *ton*	24l w 28l
Duty 20 Do. Faggots 5*d.* *ton*	19 10 0	Foreign—Span. (*dy.* 40s.)	29 0 0
per cent. Milan *ton*	0 0 0	Spelter	0 9 0 to 35 15 0
Copper, Brit.—Cake *ton*	99 0 0	For delivery	32 0 0 to 35 15 0
Tile do.	96 0 0	English Sheets	47l to 49l
Sheets *lb.*	0 0 11½	Quicksilver—(*dy.* 1*d.* per lb.)	0 3 11

REMARKS.—In every metal there is no alteration to notice, except spelter, which has advanced to 35l. 15s., and from Hamburgh to-day the price comes equal to 36l. 15s. here; a rise in France has also commenced, being there equal to 38l.

EXPORTATION OF GOLD AND SILVER.—By the official return published by the Customs, the export of the precious metals from the port of London to foreign and colonial ports, for the week ending Thursday, the 21st inst., was as under:—

Silver coin to Hamburgh	185,000	ounces.
" Rotterdam	120,000	"
" Calais	600,000	"
" British West Indies	2,100	"
" Port Philip and Sydney	20,500	"
Silver bars to Hamburgh	16,600	"
" Rotterdam	17,000	"
Gold coin to British West Indies	19	"

CURRENT PRICE OF GOLD AND SILVER.

Foreign Gold in Bars per oz.	£3 17 9	New Dollars per oz.	4 10½
" " Portugal pieces	3 17 5	Silver in Bars (standard)	0 4 11½

COAL MARKET, LONDON.

MONDAY.—Price of coals per ton at the close of the market:—Carr's Hartley 18 6—East Pontop 13 6—Lease's Main 14—Nelson's West Hartley 17—Old Tanfield 14 6—Smith's Pontop 14 6—Shipcote 18 3—Wylam 16 3—Wall's End Bewicke and Co., 20 3—Brown's 17 3—Clennell 17—Gosforth 20 3—Killingworth 19 6—Perkins 17 9—Braddyll's Hetton 22 3—Belmont 21 3—Haswell 22 6—Hetton 22 6—Lambton 22 6—Hetton 22 3—Stewart's 22 6—Caradoc 22 9—Hartlepool 22 6—Adelaide 21 3—Evenwood 17 6—Gordon 18—Seymour Tees 20—Richardson's Tees 17 9—Tees 21 6—Blyth 15—Cowpen 18—Hartley 18 6.—Ships arrived, 76.

WEDNESDAY.—Adair's Main 15—Buddle's West Hartley 18—Chester Main 15 6—Derwent Main 15—East Tanfield 12—East Pontop 13 6—East Wylam 13 6—Hebburn Main 18 6—Holywell Main 18 6—Nelson's West Hartley 17—Old Tanfield 14 6—Ord's Redheugh 14 6—Original Windsor Pontop 17 3—Pontop 14 9—Townley 15—West Hartley 18 6—Wylam 16 6—Wall's End Clennell 17 6—Hilda 19 6—Killingworth 19 9—Perkin's 18 6—Riddell's 20 3—South Killingworth 15—Braddyll's Hetton 22 9—Belmont 21 6—Haswell 22 9—Hetton 22 9—Lambton 22 9—Pemberton 21 3—Stewart's 23—Whitwell 21 3—Bentley's Hartlepool 21—Caradoc 22 9—Victoria Hartlepool 14 6—Barrington Tees 18—Barrett's 20 9—Brown's Deanery 20 6—Gordon 18 3—Richardson's Tees 17 9—Tees 21 9—West Hetton 20 3—Blyth 15—Cowpen 19.—Ships arrived, 47.

FRIDAY.—Buddle's West Hartley 18 6—Chester Main 16—East Tanfield 12 6—East Pontop 13 6—East Wylam 13 6—Old Tanfield 14 6—Pontop Windsor 14 9—Tanfield Moor 20—W. E. Gosforth 21 3—Killingworth 20—Riddell's 20 6—Hetton 23 3—Lambton 22—Cassop 23 3—Tennant's Hartlepool 22 6—Coundon Tees 20—Evenwood 18 6—Seymour Tees 21—South Durham 21 3—West Tees 18.—Ships arrived, 16.

PRICES OF MINING SHARES.

Shares.	BRITISH MINES.	Paid.	Price	Shares.	BRITISH MINES.	Paid.	Price
500	Anglesey	—	—	6,000	Tin Croft	6½	3½
4,000	Bissoe Bridge	—	½	4,300	Tretoil	1½	2½
20,000	British Iron	60	65dis	1,000	Trevidgia	5	6
8,000	Bisenavon	45	20	170	Trevisky and Barrier	—	150
120	Brewer	—	110	96	Tresavean	—	400
79	Budnick	—	100	120	Treibellan	—	250
1,000	Carn Brea	—	130	4,000	United Hills	5	7
100	Copper Bottom	41	30	6,000	Wicklow Copper	5	4½
7,000	Cornubian Lead Co.	1½	2	3,845	West Wheal Jewel	9	8½
6,000	Cornwall Great United	10½	1½	4,000	Wheal Julia	—	6½
	Cuddra	10	4	128	Wheal Kitty	—	60
512	Cook's Kitchen	—	60				
112	Charlestown	—	700		FOREIGN MINES.		
5,000	Dartmoor Consols	5	2	5,000	Alten Mining Company	12½	9
10,000	DurhamCountyCoalCo.	37	9	10,000	Anglo Mexican Co.	100	4
2,000	Danescombe	—	2	3,374	Do. Subscription	20	1
6,000	De Dunstanville	—	—	2,000	Bolanos	150	5
1,000	Duffield	30	11		Ditto Scrip	15	5
1,200	East Mulberry Hills	3½	1	10,000	Brazilian Imperial	20	5
256	East Pool	—	450	10,000	Bolivar	20	2
4,000	East Tretoil	⅞	⅞	10,000	Ditto Scrip	10	2
3,200	Great Wh. Prosper	7½	6½	10,000	Cata Branca } Brazilian	6½	7½
4,000	Great Wh. Charlotte	5	1½	7	Co.	4	—
10,000	Hibernian	12½	3½	12,000	Colmbe Copper Company	40	37½
1,000	Holmbush	14	42	8,000	Colombian Co. regis.	55	2
2,000	Isle of Sark (Guernsey)	11	13	10,000	Copiapo Mining Co.	15½	9
20,000	Mining Co. of Ireland	7	15½	20,000	General Mining Assoc.	18	2
6,000	Polberen	4	4	3,351	Mexican Company	50	2
3,000	Polberon Consols	10	½	12,000	Mocanbos and Cosnes	25	3½
2,000	Relistian	—	1½	14,582	Real del Monte, regis.	62½	7½
5,000	Redmoor Consolidated	5	1½		Do. unregistered	—	2½
10,000	Rhymney Iron	50	14½		Ditto Loan Notes	150	160
100	Rosewall Hill	100	170	7,000	Royal Santa Fe	10	19
800	South Towan	10	1	11,000	St. John d'el Rey	14½	7½
4,000	Tregollan	4½	1½	50,000	United Mexican	40	1
4,000	Treleigh Consols	4½	7½		Blanc Scrip, addl. capital	5	2
4,505	Tamar Consols	3	1½		Red Scrip	5	3

RAILWAY SHARE LIST AND TRAFFIC RETURNS.

Line.	Entire Lgth.	Now Open.	Present actual cost.	Pd. on Share.	Val of Share.	Last week's Returns.
Arbroath and Forfar Railway	15	15	£ 131,645	25	22	£166 15 9
Birmingham & Derby Junc.	48	38½	853,044	100	49	1293 8 0
Birmingham and Gloucester	53½	51	1,613,723	100	55	1862 10 0
Chester and Birkenhead	14½	14½	416,664	50	30	446 12 7
Dublin and Kingstown	6	6	333,333	100	27½	7 7 5
Dundee and Arbroath	16½	16½	154,934	25	25	120 2 6
Eastern Counties*	126½	17½	1,176,170	23	7½	824 16 3
Glasgow and